

# MACLEAN'S

## MAGAZINE

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"Slipped down and into the creek, his legs hanging clear."

—See "Snake Bitten," Page 46.

# MACLEAN'S MAGAZINE

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## Canadians Must Learn to Think in Millions!

IN THE DEVELOPING AND PEOPLEING OF HALF A CONTINENT, THE  
DOMINION IS CONFRONTED WITH RESPONSIBILITIES AND  
OPPORTUNITIES AS GREAT AS HAVE EVER BEEN  
FACED BY ANY NATION IN THE HISTORY  
OF THE WORLD

By J. Kerr Abbott

When on Dominion Day of this year Canadians contemplate the greatness of their country they must think in big figures. Millions are now being spent on great public works. Millions! Yes, hundreds of them. True, the outlay is heavy, but have we not often heard that this is Canada's growing time? With the wonderful opportunities have come tremendous responsibilities. In the development of our natural resources, in the assimilation of our foreign population, in the adjustment of differences between capital and labor, and in the rearing of a God-fearing and Christian people—is there Canada is confronted with problems as great as have ever faced any country in the history of the world. Canadians, indeed, must have vision and courage and determination. The Dominion Day talk which follows shows why.

THE Dominion Minister of Finance has obtained authority to spend over \$200,000,000 this year.

Two hundred millions! The mere suggestion of such an appropriation fifteen years ago would have made people gasp. Away back in the early seventies, when the national outlay was under thirty millions, many of those who gave serious thought to such things could see nothing but national bankruptcy ahead as a result of the scale of expenditure reached then.

Near the end of the 'eighties I was in

Ottawa in company with a Toronto deputation which was there to interview the Government of that day in regard to the preservation of the city's water front. The late W. H. Gilbey, who a few years before had represented one of the Ontarios in the Dominion Parliament, was a member of the deputation. He was sitting in one of the seats in the House of Commons (Parliament was not in session at the time) and talking of his experiences when entitled to a seat in that same chamber while Parliament was in session.

"Why," he said, "when the old MacKenzie Government got the expenditure on consolidated fund account alone up to twenty-three or twenty-four millions we on the other side thought it a case of frightful extravagance. I do not know what we would have said if they had run it up to thirty-six millions as it is now."

#### A CHANGE IN VIEWPOINT.

That is how a member of the party which is generally credited with looking at a swelling outgo with lenient eyes viewed the situation twenty years ago. It is true conditions and opinions have vastly changed since then; it is true some old ideas have been altered or wholly eradicated; but, even for this growing time, and after people have become accustomed to think in millions, a budget equal to nearly thirty dollars per head is one calculated to give pause.

Of course all the money appropriated will not be expended, but we may count with reasonable certainty on an outlay of not much, if any less, than \$25 per capita.

But what are we going to do about it? It is not the purpose here to enter into a discussion of the question as to whether \$200,000,000 is or is not exactly the proper amount to appropriate. Neither will any attempt be made to criticize the several services to be provided for. All that is proposed is to look in a broad way at the case as it stands.

#### A GRANT'S TASK.

First, let us ask, what is the position and what are the responsibilities that Fate has placed upon the Canadian nation? We are assuming the task of peopling and developing half a continent with the population of a petty state to start with. We have about the same population as Belgium, a country that could be hidden away in one corner of Ober Ontario, and we are seeking to develop and utilize an empire approaching in extent that of the Czar who has 120,000,000 subjects at command.

The world has been lost in admiration and wonder at the stupendous task accomplished by the United States in bringing the vast territories of the Republic into subjection. But the work which has been accomplished in the way of material development by the United States is small in comparison with that which is being attempted here. The Americans numbered nearly five times our present population before they began to seriously address themselves to the task of peopling a West which was no greater than is Western Canada.

#### THE DEMOCRATIC INSTINCT.

What the Republic has accomplished in the way of assimilating the vast numbers of strangers that have thronged there from all quarters of the world has been justly acclaimed as an even greater achievement than the material development attained. But in this, again, in the assimilation of alien populations, we are assuming vastly greater obligations than were assumed by our neighbors. We have already received as many immigrants in a year as the United States received in a year up to the time when the population of the Republic had passed the sixty million mark. It is not unlikely that as many strangers will enter our gates this year as the United States received in any one year up to 1800. Moreover, immigration into the United States was, until well on to the 'eighties or 'nineties, practically confined to British and German stock, people accustomed to the duties and responsibilities of popular government, while we have, almost from the beginning, had a heavy admixture of Dutchboers, Italians, Austrians and people of other races who have not had the benefit of generations of experience in democracy.

#### SHALL WE GO SLOW?

But, let the question be put again, what are we to do? Are we to evade the task that has been placed upon us? Are we to refuse to accept the burdens and

responsibilities that go with the position in which we are placed? These burdens and those responsibilities mainly centre around the peopling and developing of the West. The work of administration and development of Eastern Canada would be a comparatively simple matter. It is the administration and development of the vast territories beyond Lake Superior that constitute Canada's great problem.

But if we do not assume the solution of that problem what then? This old world is becoming too crowded to permit any such area as that contained in our sea of unbroken plains to remain long uncultivated. If we do not make use of the talent ourselves others will dig it up and use it for themselves. If Canada proves unable to meet all the obligations connected with her own development, if we cannot pump in immigrants and Canadianize them after they are on the prairies, some other nation with greater virility will carry to completion for its benefit the task we shrink from.

And where will Canada be then? If the West should cease to be Canadian, if the country beyond Lake Superior should pass into the hands of either Japan or the United States, how long would the rest of Canada endure?

#### SUPPOSE YELLOW RACE RAN IT.

With a yellow race controlling our West we would naturally unite with the Republic as a means of self-protection. With the territory of the United States extended south we as to form a solid black hundred of miles wide and shutting us off from the Pacific by force of gravitation the petty Dominion which remained would inevitably fall into the vastly greater body alongside.

For Canada there are but two alternatives. It must either be the ready as-

sumption of all the burdens that go with the administration of the whole of the vast estate or else the utter abandonment of that entire estate. We must build railways, we must dig canals, we must people the West, and to this end we must throw wide the gates to Slave and Polarok and Russian Jew, as well as to British and German born, and we must train all these newcomers in the art of government by the people and for the people. This we must do if our whole national structure is not to collapse in irreparable ruin.

The work is greater than any ever before undertaken by 7,000,000 people but national death is the penalty if we fail therein.

In carrying out the task set for us by Fate we may, we certainly shall, have to undertake greater works and greater expenditures than those at present under way. The work of fitting the West-hand Canal to pass the greatest freighters, lake haulers, will admit, now only being nibbled at, must be taken up in earnest and rushed to completion. A canal must be built along the line of the Ottawa to connect the upper lakes and the St. Lawrence by direct route. Two Hudson Bay railways will be required—one connecting with Toronto and the other linking Winnipeg with Canada's great northern sea. The clay belt forming the hinterland of Quebec and Ontario must be grid-ironed. Not only that, the seas of mountains north of the great lakes will have to be plucked and intersected by iron highways with a view of making available mineral wealth vastly greater than that now dreamed of.

We have Imperial opportunities and Imperial duties. We must commend ourselves to think in terms commensurate with these opportunities and duties.

## The Mothers of Men

By Joseph Miller

The bravest battle that ever was fought!  
Shall I tell you where and when?  
On the map of the world you will find it not—  
'Twas fought by the mothers of men.

Nay, not with the cannon or battle shot,  
With the sword or noble pen;  
Nay, not with eloquent words or thought  
From the mouths of wonderful men!

But deep in the walled-up woman's heart—  
Of a woman that would not yield,  
But bravely, silently, bore her part—  
Lo, there is that battlefield!

No marshalling troop, no bivouac song,  
No banner to gleam and wave;  
But, oh, these battles that last so long—  
From babyhood to the grave.

Yet faithful still as a bridge of stars,  
The fight in her walled-up town—  
Fights on and on in the endless wars,  
Then silent, unseen, goes down.

## Big Building Devices

MECHANICAL WONDERS AND ENGINEERING FEATS COMBINE IN THE REARING OF THE MODERN SKYSCRAPER

By John Holt

This article is one of the most interesting of the building series which readers of Maclean's Magazine have had the pleasure of reading in recent months. Mr. Holt has dealt with many phases of the building problem in his articles, but no feature has presented more fascinating points than the modern devices of construction outlined in this treatise. Just as we have advanced to the age of steel and concrete in building so we have progressed in the development of mechanical devices which render great modern engineering feats possible. The most notable of these are described in this last word on big building.

AN American friend of mine who bought an old manor-house in Warwickshire desired to put in a new garden door in one of the ground floor rooms. "I desay I could do it for yer if yer really want to 'ave it," said the local builder after examining the spot and taking measurements, "but it'll be more of a passage-like than a hordinary doorway . . . The wall's eight foot thick just where you want to



A hundred feet up. This picture shows the way in which the girders of a steel building are fitted and riveted together. Also the big crane which rivets all the girders into place.

make the 'ole in it." At another point the wall was eleven feet thick, but that was at the foot of a tower and included a bit of a buttress; in most places there was no more than an egg-shell of three or four feet of solid limestone between the inhabitants of the house and the weather.

"Ah," said the enthusiast, gazing admiringly at the window embrasures of such a house. "Those were the

days when men knew how to Build." On the contrary, it was because of what they did not know about building that those grand old castles and wonderful old houses came into existence. Grand old houses, marvellous walls, fit to endure the assaults of ages, but the product neither of scientific nor economic building. They were built when material was cheap and labor cheaper. We build better, but—if you will forgive the paradox—we are never likely to build anything half so good. Our days will be the "bad old days" from the viewpoint of the antiquarian, a thousand years hence for our cities will be tangled webs of rusty steel, our suburban residences will hardly leave a mound to

mark their sites, still—well, we make pretty good buildings all the same.

#### POSSIBILITIES AND LIMITATIONS.

Never before has building had greater possibilities and fewer limitations. A very few years ago it was ridiculously limited. Height, span, form were all subject to a thousand restrictions of material. Even things that were theoretically possible were practically out of the question. This was rather fortunate considering the architectural taste of the greater part of last century. If builders had been able to work as solidly as in Tudor times or on as magnificent a scale as in the present, imagine what monstrosities,



The early stages of a big building. Note the size of the great masses of steel.



Building a dwelling house. This illustrates one of the picturesque modern departures from old-fashioned bricks and mortar, being built entirely of hollow tiles.



Workers at work. These men climb about from girder to girder with utter fearlessness. A piece backwards and the "kicker" at the base would drop 350 feet.

terrible in their size and appearance, would cumber our streets.

However, with modern methods has come a revival of that mysterious quality "good taste." Even our factories are being built with some slight regard for appearance and our houses and city buildings are becoming more and more fit to look at as well as mere shelters from the weather.

First, came improvements in transportation and then greater possibilities of using materials brought from a distance that were better than local product; then came machinery to help aloft out the limitations of manual labor in the work of erecting a building; next, the wider choice of building material, the use of cast iron, wrought iron, steel, and

eventually concrete, reinforced concrete, new forms of brick and terra cotta, artificial stone—a host of materials which in one way by making things possible that were impossible before, and in another by cheapening work and, therefore, allowing more and better work to be done, increased the scope of building to an enormous extent.

In all forms of building Canada has kept pretty well abreast of the rest of

the world. Some things, naturally, have been too big for a young country to tackle, and again it is only natural that a growing country should have neglected the quality of permanency—what use is there in building more than a temporary shack when a year may see the need of replacing it with something better? But within the last few



The "crew" of a big steel skyscraper.



The new Bank of Hamilton structure at Hamilton, Ontario, on which seven storeys were erected above the original building.

years big things have come within Canada's reach and permanency too, and Canada can look the world in the face without blushing for her building achievements. The most striking and spectacular development of modern building has, perhaps, been in the matter of steel construction. There is something fascinating about the human towering steel structures which are arising in every Canadian city as they have arisen in every city in the United States; skyscrapers, which turn from gaunt ribbed skeletons to vast buildings decently clothed with

a flesh of brick or stone or terra cotta almost before one realizes that the once imposing five-storey buildings they replace have been torn down.

They are fascinating from their size and height, but they are still more fascinating from their very simplicity, for they are extremely simple. Think of what a huge tower such as the Traders Bank Building in Toronto would have meant in the middle ages. Its building would have been counted not in days or even years but in generations; vast blocks of stone would have been quarried for its base and its walls, supported by their massive buttresses, would have risen course by course at mighty cost of human labor, each a little mountain, as it were, of solid stone.

We might almost be back in middle ages still had it not been for steel: The beginning came in the 'fifties when attempts were made to make greater use of iron in combination with masonry. It is obvious of course that the wall of a building has to carry considerable weight; the weight of the roof, of the various floors and their loads and its own weight. That is why, in primitive building, an enormously wide base and massive buttressing was necessary to



A view of the Bank of Hamilton building as it was originally.

prevent the wall from collapsing under its own strain or buckling under pressure of the various outward "thrusts." The first use of iron in building goes back a long way since bars or stringers of iron were used in the 16th century and earlier to "tie" the walls of a building together and thus counteract the buckling tendency. The real ancestor of the modern steel building, however, was the iron column built into the masonry of the wall to carry the weight of the various floors and leaving the wall to carry its own weight alone. This was devised in answer to the demand for greater height in buildings and it did allow of a considerable increase in height, but after a building had risen a few storeys more than was previously possible the old limitations again asserted themselves; the iron might have gone higher, but the brickwork could not have reached the limit at which it could continue to support its own weight.

So by natural evolution the iron columns were made to support the walls as well as the floors and the "degree of limitation" was transferred from masonry to the strength of iron. Cast iron,



The skeleton of a big building during construction.

wrought iron and eventually steel increased the limit till to-day the strength of steel gives possibilities that are practically limitless.

The modern steel building always seems to me to be more akin to the primitive tent than to the primitive stone hut. It is a twentieth century wigwam, a framework of steel poles over which is hung a curtain of masonry. When all allowances are made for comparative sizes it is far simpler than a wigwam to construct.

The medieval building — almost any pre-railway



The Bank of Hamilton building ready for an addition of seven storeys.

building for that matter—was necessarily built of local stone or bricks burnt from local clay. With the modern building the materials may, and often do, come from the other side of the world. The steel for most of our big steel buildings comes chiefly from the States, but also to a great extent from England and from Germany. In far away shops the girders are rolled and shaped to definite shop drawing measurements; in some cases they arrive ready to be fitted together at once; in others they are cut and fitted by some local concern. Most important are the columns, the great uprights on which depends the whole weight of the building and these are made of the



1 A concrete mixer and other machinery. In this case it was possible to run a railway siding right up to the scene of work.

"softer" grades of tough steel. For the transverse girders and the struts and stays which hold the building rigid and stable, medium grades are permissible, steel that is more brittle and not so capable of bearing the enormous strain imposed upon the columns.

The difficult problems of the work are not, as a rule, evident in the ordered tangle of steel girders into which the spectator stares from his position on the sidewalk. They lie underground in the depths of the excavation which has been dug out and deepened and made ready months before the first girders of the superstructure have peeped above the surrounding hoarding. The problem of the skyscraper is not in fitting it together, that is all reduced to a formula long



Built as Belgium was burnt. Good old-fashioned beams and mortar still hold their ground; this shows the first stages of the erection of the big new General Hospital in Toronto.



Brokers. The men are holding the various tools used in erecting. The gun, saw, drill, etc.

ago, the problem lies in finding something for the great tower of brick and steel to stand upon.

Where there is bed rock within reach there is, of course, no difficulty, but, more often than not, bed rock is inaccessible. In this case the usual course is to found the supporting columns on great masses of concrete, the weight of the whole being distributed over a large area on a huge web of steel "grillage." The building stands on the more or less soft subsoil steadily and without sinking exactly as a man stands by means of snowshoes on the soft surface of the snow.

In other cases where there is a great deal of soft soil through which water freely percolates and where it would be impossible to "float" the building safely on "snowshoes" elaborate caisson methods

have to be employed. Roughly, the caisson is a huge tank which sinks through the soft soil by its own weight. Inside it, work the laborers digging out the soil of the pier hole, which is hoisted up a central shaft. They work under "high pressure" in several senses, for the caisson is filled with compressed air with the object of keeping out the soft soil and water, which otherwise would

force itself into the gradually growing excavation. Eventually, when the wet layer of soil has been penetrated and a hard basis arrived at the great shaft of the caisson is filled with cement. A succession of these make a solid foundation on which the steel superstructure can be reared. But the variations from the usual plan to fit special circumstances are innumerable. Many steel buildings are



A brick building showing scaffolding. Modern steel and concrete buildings are, as a rule, self-sufficient and do not need an elaborate casing of poles.



based upon a system of humble wooden piles; in some cases the expensive plan has been resorted to of actually freezing the liquid mud through which the pier holes had to be sunk, the mud being made hard enough for excavation by being pierced by a ramification of little pipes through which freezing mixture was run. These problems of foundation apply not to steel buildings alone but to any buildings of great size and weight.

Any of these processes may be in course of operation in the excavations

twenty storeys above. Deeper still is the elevator pit for that must go down the same number of storeys as the building rises above it. It is made by means of a steel shaft, sunk easily enough through soil and clay with the aid of a little bit of water washing soil from under it. When it reaches rock, shot and sharp edged gravel are poured down and rolled and worked about under the end of the shaft till a hole is cut and scoured through. It is into this narrow pit that the shaft of the hy-



Swinging a girder into place. How did the men reach the position they occupy?

of which you catch glimpses when the wagon loads of earth and rock come staggering up the incline into the street. With most of the big Canadian buildings the problem of foundation has been simple enough, though in two or three cases in Montreal the expensive caisson system has had to be used, notably with the new additions to the Windsor station. Naturally the ordinary passer-by does not see these operations since they go far deeper than the great pit revealed to the casual glance, which is dug out over the whole site and which merely represents the one or two, or possibly three or four basement storeys which balance the fifteen or

drainic elevator descends as it drops from floor to floor with its passengers.

#### MODERN CONSTRUCTION DEVICES.

The basement excavation becomes the site of quite a little factory during the building operations, for machinery has taken the place of most of the hand labor of the past and an engine room in some central position is one of the prime requirements. Even before the excavation is made, machinery comes into play. Very often, for example, a steam plough does the work of breaking up the ground and it is becoming the rule rather than the exception for a steam shovel to replace the human "wage"

who were wont to drap themselves picturesque along the sidewalk edge during the lunch hour. A steam shovel specially designed for compactness is to be brought into play on the excavations for Eaton's big new building in Toronto—for the first time, it is said, in Canada. Then concrete is mixed by machinery; machinery is necessary for the hoists and the air compressors and in a dozen different ways.

The big steam crane is the ruler of the roost. Perched in its convenient central position in the excavation it lifts the first huge girders into place and gradually rises storey by storey with the building which is fitted together around it. The steam crane on the C.P.R. building in Toronto—a good typical example of the Canadian skyscraper—can lift up to 12 tons and swings bundles of girders up to a couple of hundred feet above the street level as though they were so many sticks of wood. For a sixteen storey building such as the C.P.R. office it would handle 2,000 or more tons of steel in the course of the work and would then have to deal with a couple of million bricks for the walls. When all is finished it comes to pieces and descends from the top of the building it has picked up hit by hit from the ground, ready to get to work on another one.

Here and there in the steel framework chatter the pneumatic riveters. Close to where a new girder is to be swung into position by the crane, a little portable forgo perches on a platform. It is attended by the "Heater" who feeds it with rivets and sees that they get properly red hot. One by one, as they are needed they are taken from the glowing forge by the "Thrower" who tosses them accurately to the "Sticker," one of the three men clustered at the end of the great steel beam. The "Sticker" thrusts the rivet through the holes awaiting it; instantly the "Rocker-Up" has his heavy "dolly" pushed hard against the glowing head and the "Gun-Man" jams the nozzle of his "gun" over the little red-hot projecting end of

the rivet. Chatter, chatter goes the "gun" as the compressed air in its snaky tube jerks the plunger in the nozzle backwards and forwards two hundred times a second; after a moment the gun is drawn away and the end of the rivet is revealed neatly mushroomed out to correspond with the head upon the other side. As the rivet cools it contracts and draws the two girders it joins still closer together. Meanwhile the riveter and his crew are at work upon the next one.

After the riveters, come the men who protect the steel from its most dangerous enemies, rust and fire. Every girder is very carefully cleaned and sealed and then painted and encased in asbestos, terra cotta or some other material or cement. The last is the common method nowadays since it has been found that cement sticks to smooth steel, protects it absolutely against rust and minimizes more than other materials the danger of its buckling under the action of heat. All the steel girders and columns have to be covered in some way against the attacks of their enemies and the more completely this is done, and inflammable material eliminated from the interior fittings, etc., of the building, the more fire-proof it is.

Even before the steel work is all riveted together and finished, the masons and bricklayers may be at work on the lower storeys. The steel work, as I have said, carries the whole weight of the building, walls and all, so work may be in progress on several storeys simultaneously. Usually the walls are simply brickwork built in the ordinary way from the girders of one floor to meet the girders of the one above. Where there are balconies or cornices the girders project for their support and the protruding portion is built on them or hung from them as desired. Terra cotta and artificial stone are coming in to more and more favor every year in replacing brick as a "curtain" with which to fill the interstices of the great steel skeleton and with both of them it

is possible to get very excellent effects architecturally.

#### STEEL AND CONCRETE.

The usefulness of steel in building has not begun and ended with purely steel construction; far from it. It is used in conjunction with brick and stone and almost every other building

material to a greater or less degree and has proved invaluable in a thousand different ways. Its most important development has been its use with- in the last decade, in conjunction with concrete. Reinforced concrete is beginning to appropriate a pretty big share of the honors of the modern building.

Reinforced concrete, as anyone knows, is simply concrete strengthened with steel, usually in the form of bars or mesh-work, and designed, therefore, to combine the strength and advantages of both these materials. After all, when you come to think of it, the casing of the columns of a steel building in concrete for protection against rust and heat is a step towards reinforced concrete and it is not surprising to find the new material largely replacing steel pure and simple in the construction of big buildings.

There is not the same apparent ro-

mance for the spectator in watching a reinforced concrete building going up, but it is fascinating nevertheless since the building operations look so absurdly simple and also since the building has an air of solid permanency from the very outset of its construction.

Foundation problems are practically the same for all types of buildings and may always be difficult of solution, but once the foundations are well and truly laid a reinforced concrete building can go up storey by storey with astonishing rapidity, far more simply and rapidly even than a steel structure.

A concrete building appears to build itself up out of the dust. Here are no huge piles of material, stacks of bricks, blocks of stone, great tiers of beams of any of the preparations one associates with the making of a big building. Bit by bit the materials come to the site in the form of wagon loads of unimpressive looking steel

rods, commonplace sacks of cement and mere ordinary sand and gravel. Down in the basement are a few insignificant looking concrete mixers at work, those curious cone-shaped machines which lately have become so familiar. Easily the cones revolve and the sand, gravel and cement are transmitted into the thick, pasty

semi-fluid which will harden into solid stone.

Where the walls are gradually rising, the builders are arranging "forms," the bottomless troughs or moulds into which the concrete is poured. Above the forms project a bristle of ends of steel, the bars or webbing or whatever form the reinforcement may take which is erected inside the forms ready for the concrete to settle and harden around it. As with the walls so with the supporting columns scattered at proper intervals about the interior of the building; the forms are arranged in a precisely similar way differing only in their thickness and the strength of their reinforcement.

Ten days to a storey is a usual allowance of time for erection. On one day the columns are "poured" and on the next the floors. As each storey "sets" firm and hard the one above is started, and thus a five or six storey building may arise from its foundations in as little as two months. Often a building is only framed in concrete, exactly as a steel building is framed of steel, the curtain walls being built of brick or other material. But there is a growing tendency to use concrete exclusively for floors, walls and everything else and thus to make a building practically equivalent to one built out of solid rock—with the additional advantage that the "rock" is provided with tough steel fibres and sinews.

Of course concrete has its disadvantages. Like the little girl, when it is good it is very very good, but when it is bad it is horrid. Bad concrete made of inferior materials or mixed in the wrong proportions may crumble away like unburnt clay, but good concrete has the astonishing property of getting harder and better every year of its life. Advantage is taken of this quality of good concrete in rather a singular way. A building of say four or five storeys is made and left as such for a couple of years. At the end of that time the concrete has hardened and strengthened to such a degree that it is possible to add

an additional storey without any strengthening of the substructure as would be necessary with any other class of building.

In Canada, so far, concrete reinforced or otherwise, has been used chiefly in the construction of factories and similar buildings. There have been a few office buildings made of it and numerous smaller buildings such as dwelling houses, but in its experimental stages its use has been characterized by a certain heaviness and clumsiness which has created some prejudice against it, when appearance has to be studied. This heaviness is not by any means necessary; concrete is capable of considerable lightness and grace and naturally by the use of well designed moulds on the outside walls of the forms, it has great possibilities of ornamentation. But at any rate it is well that factories with their great demands of strength, fire-resistance and so on should have seen it through its early stages and it could have no better introduction to the world in general than the enthusiastic testimony it has received from manufacturers.

#### REMARKABLE BUILDING FRAMES.

Even though the purely steel structure no longer has the field of big, economical, and rapid building all to itself it is responsible for most of the miracles the modern builder has accomplished. And not only has it made miracles of construction possible, but of reconstruction also. Quite a commonplace feat of steel, for instance, is the creation of one building a-straddle of another.

The case of the Bank of Hamilton's head office in that city is a good example. The Bank was housed in an old three-storey building and desired, without changing its site to move into a modern structure of nine storeys. No temporary premises were available in the town and it was therefore necessary to add another six storeys to the existing building without shifting or disturbing the business of the bank carried on therein.



Pouring in a modern way. The plaster is "shot" at the lathing under pressure from a gun. The picture shows a type of metal lathing in general use.

In a very ingenious way the foundations of the old building were, hit by hit removed and replaced by much more extensive concrete foundations fit to carry the weight of the extra six storeys. Naturally enough, there were many difficulties about this work, since it had to be carried out in the dark and confined space of an excavation underneath the old structure. Still, it was successfully accomplished and on the new foundations a steel framework was based, the columns of which were carried upwards through the old building to support the new. Thus the six new storeys were built, so to speak, on a steel bridge spanning the old building and resting on the same foundations. When all was ready, the old and new walls were joined and a nine storey building was the result in which the two lower storeys of the old building were left practically untouched. The three unique illustrations which accompany this article show in a striking manner, three stages of the work.

Similar operations have been carried out in many parts of Canada; in Toronto, the other day, three storeys were added to a building in almost exactly the same way and indeed there is hard-

ly any limit to the resources of the building engineer with modern materials and methods at his command.

Still, with all the wonders that steel has made possible, it is refreshing to the conservative mind to see good old-fashioned masonry still holding its ground and to watch even the biggest types of buildings going up brick by brick, course by course, on exactly the same principle as that wherewith Balhuth built his wall and the federated nations on the plains of Babylon started their abortive skyscraper.

Only the principle is the same; the methods and materials are very different. Of bricks, for instance, there are now many kinds in use for different purposes and there is unbounded wealth of choice in tiles and terra cotta and artificial stone. Still the ancient principle remains. The bricks, or blocks, or slabs are slung by cranes or derricks, or carried by immemorial hodmen to their appointed places in the wall and bonded together with mortar. Even concrete conforms in some instances to old tradition: instead of moulding itself into a monolithic mass it allows itself to be shaped into blocks and built up in the good old-fashioned way.

## Working Under Discouragement

Nothing will take the heart out of a worker so quickly as discouragement. It is easy to push on when hope is bright, when prospects are good, but it is a rare character who can do good work, keep up his enthusiasm and courage when he sees no hope or encouragement. This is what tests weak characters. Weak men push ahead when everything is favorable; but when hope is blotted out, when there is no future in sight, no prospects to cheer, it is a very different thing. But the world builders, the civilization lifters have been those who have trained themselves to keep pushing ahead anyway, whether things look bright or dark. This is the test of a strong character, of a man's quality.

## The Smoke Bellew Series

### TALE SEVEN: THE LITTLE MAN

In which are related further thrilling adventures of Smoke and Shorty.

By Jack London

I  
"I WISH you wasn't so set in your ways," Shorty demurred. "I'm sure as airt of that glacier. No man ought to tackle it by his lonely."

Smoke laughed cheerfully, and ran his eye up the glistening face of the tiny glacier that filled the head of the valley.

"Here it is, August already, and the days have been getting shorter for two months, he epitomized the situation. "You know quarts, and I don't. But I can bring up the grub, while you keep after that mother lode. So long. I'll be back by to-morrow evening."

He turned and started.

"I got a hunch something's goin' to happen," Shorty pleaded after him.

But Smoke's reply was a bantering laugh. He held on down the little valley, occasionally wiping the sweat from his forehead, the while his foot crushed through ripe mountain raspberries and delicate ferns that grew beside patches of sun-sheltered ice.

In the early spring he and Shorty had come up the Stewart River and launched out into the amazing chaos of the region where Surprise Lake lay. And all of the spring and half of the summer had been consumed in futile wanderings, when, on the verge of turning back, they caught their first glimpse of the baffling, gold-bottomed sheet of water which had lured and fooled a generation of miners. Making their camp in the old cabin which Smoke had

discovered on his previous visit, they had learned three things. First, heavy nugget gold was carpeted thickly on the lake bottom; next, the gold could be dived for in the shallower portions, but the temperature of the water was man-killing; and, finally, the draining of the lake was too stupendous a task for two men in the shorter half of a short summer. Undeterred, reasoning from the coarseness of the gold that it had not traveled far, they had set out in search of the mother lode. They had crossed the big glacier that frowned on the southern rim and devoted themselves to the puzzling maze of small valleys and canyons beyond, which, by most unmountainlike methods, drained, or had at one time drained, into the lake.

The valley Smoke was descending, gradually widened after the fashion of any normal valley; but, at the lower end, it pinched narrowly between high precipitous walls and abruptly stopped in a cross wall. At the base of this, in a welter of broken rock, the streamlet disappeared, evidently finding its way out underground. Climbing the cross wall, from the top Smoke saw the lake beneath him. Unlike any mountain lake he had ever seen, it was not blue. Instead, its intense peacock green looked its shallowness. It was this shallowness that made its draining feasible. All about arose jumbled mountains, with ice-carved peaks and crags, grotesquely-shaped and grouped. All was

topsy-turvy and unsystematic—a Dore nightmare. So fantastic and impossible was it that it affected Smoke as more like a cosmic landscape joke than a rational portion of earth's surface. There were many glaciers in the canyons, most of them tiny, and, as he looked, one of the larger ones, on the north shore, culved amid thunders and splashing. Across the lake, seemingly not more than half a mile, but as he well knew, five miles away, he could see the bunch of spruce trees and the cabin. He looked again to make sure, and saw smoke clearly rising from the chimney. Somebody else had surprised themselves into finding Surprise Lake, was his conclusion, as he turned to climb the southern wall.

From the top of this he came down into a little valley, flower-floored and lacy with the hum of bees, that behaved quite as a reasonable valley should, insofar as it made legitimate entry on the lake. What was wrong with it was its length—scarcely a hundred yards; its head a straight up-and-down cliff of a thousand feet, over which a stream pitched itself in descending veils of mist.

And here he encountered more smoke, floating lazily upward in the warm sunshine beyond an out-jut of rock. As he came around the corner he heard a light, metallic tap-tapping and a merry whistling that kept the beat. Then he saw the man, an up-turned shoe between his knees, into the sole of which he was driving hob-spikes.

"Hello," was the stranger's greeting, and Smoke's heart went out to the man in ready liking. "Just in time for a snack. There's coffee in the pot, a couple of cold flapjacks, and some jerky."

"I'll go you if I lose," was Smoke's acceptance, as he sat down. "I've been rather skimped on the last several meals, but there's soddies of grub over in the cabin."

"Across the lake? That's where I was heading for."

"Seems Surprise Lake is becoming

popular," Smoke complained, emptying the coffee pot.

"Go on, you're joking, aren't you?" the man said, surprise painted on his face.

Smoke laughed. "That's the way it takes everybody. You see those high ledges across there to the northwest? There's where I first saw it. No warning. Just suddenly caught the view of the whole lake from there. I'd given up looking for it, too."

"Some here," the other agreed. "I'd headed back and was expecting to fetch the Stewart last night, when out I popped in sight of the lake. If that's it, where's the Stewart? . . . and where have I been all the time? And how did you come here? And what's your name?"

"Bellevue—Kit Bellevue."

"Oh! I know you." The man's eyes and face were bright with a joyous smile, and his hand flashed eagerly out to Smoke's. "I've heard all about you." "Been reading police court news, I see," Smoke spurred modestly.

"Nope." The man laughed and shook his head. "Merely recent Klondike history. I might have recognized you if you'd been shaved. I watched you putting it all over the gambling crowd when you were backing roulette in the Elkhorn. My name's Carson—Andy Carson; and I can't begin to tell you how glad I am to meet up with you."

He was a slender man, narrow-shouldered and slightly stooped, but wiry with health, with quick black eyes and a magnetism of camaraderie.

"And this is Surprise Lake?" he murmured incredulously.

"It certainly is."

"And it's bottom's buttered with gold?"

"Sure. There's some of the burning." Smoke dipped in his overalls pocket and brought forth half a dozen nuggets. "That's the stuff. All you have to do is to go down to bottom blind, if you want to, and pick up a handful. Then you've got to run half a mile to get up your circulation."

"Well, gosh darn my dingbats, if you haven't benten me to it," Carson swore whimsically, but his disappointment was patent. "An' I thought I'd scooped the whole cahoodle. Anyway I've had the fun of getting here."

"Fun!" Smoke cried. "Why if we can ever get our hands on all that bottom, you'll make Rockefeller look like thirty cents."

"But it's yours," was Carson's objection.

"Nothing to it, my friend. You've got to realize that no gold deposit like it has been discovered in all the history of mining. It will take you and me and my partner and all the friends we've got to lay our hands on it. All Bezanza and Eldorado, dumped together, wouldn't be richer than half an acre down there. The problem is to drain the lake. It will take millions. And there's only one thing I'm afraid of. There's so much of it that if we failed to control the output it will bring about the demotion of gold."

"And you tell me . . ."

Carson broke off, speechless and amazed. "And glad to have you. It will take a year or two, with all the money we can mine, to drain the lake. It can be done. I've looked over the ground. But it will take every man in the country that's willing to work for wages. We'll need an army, and we need right now decent men in on the ground floor. Are you in?"

"Am I in? Don't it look it? I feel so much like a millionaire that I'm real timid about crossing that big glacier. Couldn't afford to break my neck now. Wish I had some more of those hob-spikes. I was just hammering the last in when you came along. How's yours? Let's see."

Smoke held up his foot.

"Warm smooth as a skating rink!" Carson cried. "You've certainly been hiking some. Wait a minute, and I'll pull some of mine out for you."

But Smoke refused to listen. "Besides," he said, "I've got about forty feet of rope cached where we take the

ice. My partner and I used it coming over. It will be a cinch."

## II.

It was a hard, hot climb. The sun blazed dazzlingly on the ice-surface, and with steaming pores they panted from the exertion. There were places, crisscrossed by countless fissures and crevasses, where an hour of dangerous toil advanced them no more than a hundred yards. At two in the afternoon beside a pool of water bedded in the ice, Smoke called a halt.

"Lee's tackle some of that jerky," he said. "I've been on short allowance, and my knees are shaking. Besides, we're across the worst. Three hundred yards will fetch us to the rocks, and it's easy going, except for a couple of nasty fissures, and one bad one that heads a down toward the bulge. There's a weak ice-bridge there, but Shorty and I managed it."

Over the jerky, the two men got acquainted, and Andy Carson unbesombed himself of the story of his life.

"I just knew I'd find Surprise Lake," he mumbled in the midst of mouthfuls. "I had to. I missed the French Hill Bench, the Big Skookum, and Monte Cristo, and then it was Surprise Lake or bust. And here I am. My wife knew I'd strike it. I've got faith enough, but her knocks mine galley west. She's a corker, a crackercrack—dead game, fight to her finger ends, never-say-die, a glitter from the drop of the hat, the one woman for me, true blue and all the rest. Take a look at that."

He sprung up his watch, and on the inside cover Smoke saw the small, pasted picture of a bright-haired woman, framed on either side by the laughing face of a child.

"Boys!" he queried.

"Boy and girl," Carson answered proudly. "He's a year and a half older." He sighed. "They might have been some grown, but we had to wait. You see, she was sick. Lungs. But she put up a fight. What'd you know about such stuff? I was clerking, rail-

road clerk, Chicago, when we got married. Her folks were tuberculosis. Doctors didn't know much in those days. They said it was hereditary. All her family had it. Caught it from each other, only they never guessed it. Thought they were born with it. Fate. She and I lived with them the first couple of years. I wasn't afraid. No tuberculosis in my family. And I got it. That set me thinking. It was contagious. I caught it from breathing their air.

"We talked it over, she and I. Then I jumped the family doctor and consulted an up-to-date expert. He told me what I'd figured out for myself, and said Arizona was the place for us. We pulled up stakes and went down—no money, nothing. I got a job sheep-herding, and left her in town—a lingo town. It was filled to spilling with lungers.

"Of course, living and sleeping in the clean open, I started right in to mend. I was away months at a time. Every time I came back, she was worse. She just couldn't pick up. But we were learning. I jacked her out of that town, she went to sheep-herding with me. In four years, winter and summer, cold and heat, rain, snow, and frost, and all the rest, we never slept under a roof, and we were moving camp all the time. You ought to have seen the change—brown as herries, lean as Indians, tough as rawhide. When we figured we were cured, we pulled out for San Francisco. But we were too precious. By the second month we both had slight hemorrhages. We flew the coop back to Arizona and the sheep. Two years more of it. That fixed us. Perfect cure. All her family's dead. Wouldn't listen to us.

"Then we jumped cities for keeps. Knocked around on the Pacific Coast, and Southern Oregon looked good to us. We settled in the Rogue River Valley—apples. There's a big future there, only nobody knows it. I got my land—on time, of course—for

forty an acre. Ten years from now it'll be worth five hundred.

"We've done some almighty hustling. Takes money, and we hadn't a cent to start with—you know, had to build a house and barn, get horses and plows, and all the rest. She taught school two years. Then the boy came. But we've got it. You ought to see those trees we planted—a hundred acres of them, almost mature now. But it's all been outgo, and the mortgage working overtime. That's why I'm here. She'd a-come along only for the kids and the trees. She's handlin' that end, and here I am, a gosh-danged expensive millionaire . . . in prospect."

He looked happily across the sundazzle on the ice to the green waters of the lake along the farther shore, took a final look at the photograph, and murmured:

"She's some woman, that. She's hung on. She just wouldn't die, though she was pretty close to skin and bone all wrapped around a bit of fire when she went out with the sheep. Oh, she's thin now. Never will be fat. But it's the prettiest thinness I ever saw, and when I get back, and the trees begin to bear, and the kids get going to school, she and I are going to do Paris. I don't think much of that burg, but she's just hankered for it all her life."

"Well, here's the gold that will take you to Paris," Smoke assured him. "All we've got to do is to get our hands on it."

Carson nodded with glistening eyes. "Say—that farm of ours is the prettiest piece of orchard land on all the Pacific Coast. Good climate, too. Our lungs will never get touched again there. Ex-hangers have to be mighty careful you know. If you are thinking of settling, well, just take a peep in at our valley before you settle, that's all. And fishing! Say—did you ever get a thirty-five pound salmon on a six-ounce rod? Some fight, bo, some fight!"



"Andy Carson, the little man."

## III.

"I'm lighter than you by forty pounds," Carson said. "Let me go first."

They stood on the edge of the crevasse. It was enormous and ancient, fully a hundred feet across, with sloping, sun-sken sides instead of sharp-angled rims. At this one place it was bridged by a huge mass of pressure-hardened snow that was itself half ice. Even the bottom of this mass they could not see, much less the bottom of the crevasse. Crumpling and melting, the bridge threatened imminent collapse. There were signs where recent portions had broken away, and even as they studied it a mass of half a ton dislodged and fell.

"Looks pretty bad," Carson admitted with an ominous head shake. "And it looks much worse than if I wasn't a millionaire."

"But we've got to tackle it," Smoke said. "We're almost across. We can't go back. We can't camp here on the ice all night. And there's no other way. Shortly and I explored for a mile up. It was in better shape, though, when we crossed."

"It's one at a time, and me first," Carson took the part coil of rope from Smoke's hand. "You'll have to cast off. I'll take the rope and the pick. Gimme your hand so as I can slip down easy."

Slowly and carefully he lowered himself the several feet to the bridge, where he stood, making final adjustments for the perilous traverse. On his back was his pack outfit. Around his neck, resting on his shoulders, he coiled the rope, one end of which was still fast to his waist.

"I'd give a mighty good part of my millions right now for a bridge construction gang," he told Smoke, but his cheery, whimsical smile belied the words. Also, he added, "It's all right, I'm a cut."

The pick and the long stick he used as an alpenstock, he balanced horizontally after the manner of a rope-walker.

He thrust one foot forward tentatively, drew it back, and steered himself with a visible physical effort.

"I wish I was flat broke," he smiled up. "If ever I get out of being a millionaire this time, I'll never be one again. It's too uncomfortable."

"It's all right," Smoke encouraged. "I've been over it before. Better let me try it first."

"And you forty pounds to the worse," the little man fished back. "I'll be all right in a minute. I'm all right now." And this time the nerving up process was instantaneous. "Well, here goes for Rogue River and the apples," he said, as his foot went out, this time to rest carefully and lightly while the other foot was brought up and past.

Very gently and circumspectly he continued on his way until two-thirds of the distance was covered. Then he stopped to examine a depression he must cross, at the bottom of which was a fresh crack. Smoke, watching, saw him glance to the side and down into the crevasse itself, and then begin a slight swaying.

"Keep your eyes up!" Smoke commanded sharply. "Now! Go on!"

The little man obeyed, not faltered on the rest of the journey. The sun-crowned slope of the farther edge of the crevasse was slippery but not steep, and he worked his way up to a shallow niche, faced about, and set down.

"Your turn," he called across. "But just keep a-coming and don't look down. That's what got my goat. Just keep a-coming, that's all. And get a move on. It's simply rotten."

Balancing his own stick horizontally, Smoke essayed the passage. That the bridge was on its last legs was potent. He felt a jar under foot, a slight movement of the mass, and a heavier jar. This was followed by a single sharp crackle. Behind him he knew that something was happening. If for no other reason, he knew it by the strained, tense face of Carson. From beneath, thin and faint, came the murmur of running water, and Smoke's

eyes involuntarily wavered to a glimpse of the shimmering depths. He jerked them back to the way before him. Two-thirds over, he came to the depression. The sharp edges of the crack, but slightly touched by the sun, showed how recent it was. His foot was lifted to take the step across, when the crack began slowly widening, at the same time emitting numerous sharp snaps. He made the step quickly, increasing the stride of it, but the worn nails of his shoe skated on the further slope of the depression. He fell on his face, and without pause slipped down and into the crack, his legs hanging clear, his chest supported by the stick, which he had managed to twist crosswise as he fell.

His first sensation was the nausea caused by the sickening upheaval of his pulse; his first idea was of surprise that he had fallen no further. Behind him was crackling and jar and movement to which the stick vibrated. From beneath, in the heart of the glacier, came the soft and hollow thunder of the dislodged masses striking bottom. And still the bridge, broken from its farthest support and ruptured in the middle, held, though the portion he had crossed tilted downward at a pitch of twenty degrees. He could see Carson, perched in his niche, his feet braced against the melting surface, swiftly recalling the rope from his shoulders to his hand.

"Wait," he cried. "Don't move, or the whole shooting match will come down."

He calculated the distance with a quick glance, took the bandanna from his neck and tied it to the rope, and increased the length by a second bandanna from his pocket. The rope, manufactured from sled-lashings and short lengths of plaited rawhide knotted together, was both light and strong. The first cut was lucky as well as deft, and Smoke's fingers clutched it. He evidenced a hand-over-hand intention of crawling out of the crack. But Carson, who had refastened the rope around his own waist, stopped him.

"Make it fast around yourself as well," he ordered.

"If I go I'll take you with me," Smoke objected.

The little man became very persampatory.

"You shut up," he ordered. "The sound of your voice is enough to start the whole thing going."

"If I ever start going——" Smoke began.

"Shut up. You ain't going to ever start going. Now do what I say . . . That's right . . . under the shoulders . . . Make it fast . . . Now! Start! Get a move on, but easy as you go. I'll take in the slack. You just keep a-coming. That's it. Easy . . . Easy."

Smoke was still a dozen feet away when the final collapse of the bridge began. Without noise, but in a jerky way, it crumbled to an increasing tilt. "Quick!" Carson called, coming in hand over hand on the slack of the rope which Smoke's rush gave him.

When the crash came, Smoke's fingers were clawing into the hard face of the wall of the crevasse, while his body dragged back with the falling bridge. Carson sitting up, feet wide apart and broad, was heaving on the rope. This effort swung Smoke in to the side wall, but it jerked Carson out of his niche. Like a cat, he faced about, clawing wildly for a hold on the ice and slipping down. Beneath him, with forty feet of taut rope between them, Smoke was clawing just as wildly; and ere the thunder from below announced the arrival of the bridge, both men had come to rest. Carson had achieved this first, and the several pounds of pull he was able to put on the rope had helped bring Smoke to a stop.

Each lay in a shallow niche, but Smoke's was so shallow that, tense with the strain of flinching and sticking, nevertheless he would have slid on had it not been for the slight resistance he took from the rope. He was on the verge of a bulge and could not see beneath him. Several minutes passed, in

which they took stock of the situation and made rapid strides in learning the art of sticking to wet and slippery ice. The little man was the first to speak.

"Gee!" he said; and a minute later, "If you can dig in for a moment and slick on the rope, I can turn over. Try it."

Smoke made the effort, then rested on the rope again.

"I can do it," he said. "Tell me when you're ready. And be quick."

"About three feet down is holding for my heels," Carson said. "It won't take a moment. Are you ready?"

"Go on."

It was hard work to slide down a yard, turn over and sit up; but it was even harder for Smoke to remain flattened and maintain a position that from instant to instant made a greater call upon his muscles. As it was, he could feel the almost perceptible beginning of the slip when the rope tightened and he looked up into his companion's face. Smoke noted the yellow pallor of sun-tan forsaken by the blood, and wondered what his own complexion was like. But when he saw Carson with shaking fingers, fumble for his sheath-knife, he decided the end had come. The man was in a funk and was going to cut the rope.

"Don't m-mind m-m-me," the little man chattered. "I ain't scared. It's only my nerves, gosh dang them. I'll b-b-be all right in a minute."

And Smoke watched him, doubled over, his shoulders between his knees, shivering and awkward, holding a slight tension on the rope with one hand, while with the other he heaved and gouged holes for his heels in the ice.

"Carson," he breathed up to him, "you're some bear, some bear." The answering grin was ghostly and pathetic.

"I never could stand heights," Carson confessed. "It always did get me. Do you mind if I stop a minute and

clear my head? Then I'll make those heel-holds deeper so I can heave you up."

Smoke's heart warmed. "Look here, Carson. The thing for you to do is to cut the rope. You can never get me up, and there's no use both of us being lost. You can make it out with your knife."

"You shut up," was the hurt retort.

"Who's running this?"

And Smoke could not help but see that anger was a good restorative for the other's nerves. As for himself, it was the more nerve-racking strain, lying plastered against the ice with nothing to do but strive to stick on.

A groan and a quick cry of "Hold on!" warned him. With face pressed against the ice, he made a supreme sticking effort, felt the rope slacken, and knew that Carson was slipping toward him. He did not dare look up until he felt the rope tighten and knew the other had again come to rest.

"Gee, that was a near go," Carson chattered. "I came down over a yard. Now you wait. I've got to dig new holds. If this damaged ice wasn't so melty, we'd be hunky-dory."

Holding the few pounds of strain necessary for Smoke with his left hand, the little man jabbed and chopped at the ice with his right. Ten minutes of this passed.

"Now, I'll tell you what I've done," Carson called down. "I've made heel-holds and hand-holds for you alongside of me. I'm going to heave the rope in slow and easy, and you just come along sticking an' not too fast. I'll tell you what. First of all, I'll take you on the rope, and you worry out of that pack. Get me?"

Smoke nodded, and with infinite care unbuckled his pack straps. With a wriggle of the shoulders he dislodged it, and Carson saw it slide over the bulge and out of sight.

"Now, I'm going to ditch mine," he called down. "You just take it easy and wait."

Five minutes later the upward struggle began. Smoke, after drying his hands on the insides of his arm-sleeves, clawed into the climb—bellied, and clung, and struck and plastered—sustained and helped by the pull of the rope. Alone, he could not have advanced. Despite his muscles, because of his forty pounds handicap, he could not cling as did Carson. A third of the way up, where the pitch was steeper and the ice less eroded, he felt the strain on the rope decreasing. He moved slower and slower. Here was no place to stop and remain. His most desperate effort could not prevent the stop, and he could feel the down-slip beginning.

"I'm going," he called up.

"So am I," was the reply, gritted through Carson's teeth.

"Then cut loose."

Smoke felt the rope tauten in a futile effort, then the pace quickened, and as he went past his previous lodgment and over the bulge the last glimpse he caught of Carson he was turned over, with madly moving hands and feet striving to overcome the downward draw. To Smoke's surprise, as he went over the bulge, there was no sheer fall. The rope restrained him as he slid down a steeper pitch which quickly eased until he came to a halt in another niche on the verge of another bulge. Carson was now out of sight, ensconced in the place previously occupied by Smoke.

"Gee!" he could hear Carson shiver.

"Gee!"

An interval of quiet followed, and then Smoke could feel the rope agitated.

"What are you doing?" he called up. "Making more hand-and-foot-holds," came the trembling answer. "You just wait. I'll have you up here in a jiffy. Don't mind the way I talk. I'm just excited." "But I'm all right. You wait and see."

"You're holding me by main strength," Smoke argued. "Soon or late, with the ice melting, you'll slip down after me. The thing for you to

do is cut loose. Hear me? There's no use both of us going. Get that? You're the biggest little man in creation, but you've done your best. You cut loose."

"You shut up. I'm going to make holes this time deep enough to haul up a span of horses."

"You've held me up long enough," Smoke urged. "Let me go."

"How many times have I held you up?" came the truculent query.

"Some several, and all of them too many. You've been coming down all the time."

"And I've been learning the game all the time. I'm going on holding you up until we get out of here. Savvy? When God made me a light weight I guess he knew what he was about. Now, shut up. I'm busy."

Several silent minutes passed. Smoke could hear the metallic strike and hack of the knife, and occasional dribbles of ice slid over the bulge and came down to him. Thirsty, clinging on hand and foot, he caught the fragments in his mouth and melted them to water which he swallowed.

He heard a gasp that slid into a groan of despair, and felt a slackening of the rope that made him clasp. Immediately the rope tightened again. Straining his eyes in an upward look along the steep slope, he started a moment, then saw the knife, point first, slide over the verge of the bulge and down upon him. He tucked his cheek to it, shrank from the pang of cut flesh, tucked more tightly, and felt the knife come to rest.

"I'm a slob," came the wail down the crevasse.

"Cheer up, I've got it," Smoke answered.

"Soy! Wait! I've a lot of string in my pocket. I'll drop it down to you, and you send the knife up."

Smoke made no reply. He was battling with a sudden mish of thought.

"Hey! You! Here comes the string. Tell me when you've got it."

A small pocket knife, weighted on the end of the string, slid down the ice. Smoke got it, opened the larger blade by a quick effort of his teeth and one hand, and made sure that the blade was sharp. Then he tied the sheath-knife to the end of the string.

"Haul away!" he called.

With strained eyes he saw the upward progress of the knife. But he saw more—a little man, afraid and indomitable, who shivered and chattered, whose head swam with giddiness, and who mastered his qualms and distresses and played a hero's part. Also, Smoke saw again the face of the bright-haired woman with the face of a child on either side. And dim in the haze of western summer he saw apple trees growing in a river valley, and in the ripples of the river the flash of leaping salmon. Not since his meeting with Shorty, had Smoke so quickly liked a man. Here was a proper mount-eater, eager with friendliness, generous to destruction, with a grit that shaking fear could not shake. Then, too, he considered the situation cold-bloodedly. There was no chance for two. Steadily, they were sliding into the heart of the glacier, and it was his greater weight that was dragging the little man down. The little man could stick like a fly. Alone, he could save himself.

"Bully for us!" came the voice from above, down and across the bulge of ice. "Now we'll get out of here in two shakes."

The awful struggle for good cheer and hope in Carson's voice, decided Smoke.

"Listen to me," he said steadily, vainly striving to shake the vision of Joy Gastell's face from his brain. "I sent that knife up for you to get out with. Get that? I'm going to chop loose with the jack-knife. It's one or the both of us. Get that?"

"Two or nothing," came the grim, but shaky response. "If you'll hold on a minute——"

"I've held on for too long now. I'm not married. I have no adorable thin

woman, nor kids, nor apple trees waiting for me. Get me? Now, you hike to hell-and-gone-up and out of that!"

"Wait!—for God's sake, wait!" Carson screamed down. "You can't do that. Give me a chance to get you out. Be calm, Old Horse. We'll make the turn. You'll see. I'm going to dig holds that'll lift a house and harm."

Smoke made no reply. Slowly and gently, fascinated by the sight, he cut with the knife until one of the three strands popped and parted.

"What are you doing?" Carson cried desperately. "If you cut, I'll never forgive you—never. I tell you it's two or nothing. We're going to get out. Wait!—for God's sake!"

And Smoke, staring at the parted strand, five inches before his eyes, knew fear in all its weakness. He did not want to die; he recoiled from the shimmering abyss beneath him, and his panic brain urged all the preposterous optimism of delay. It was fear that prompted him to compromise.

"All right," he called up. "I'll wait. Do your best. But I tell you, Carson, if we both start slipping again I'm going to cut."

"Huh! Forget it. When we start, Old Horse, we start up. I'm a porous plaster. I could stick here if it was twice as steep. I'm getting a sizable hole for one heel already. Now, you hush, and let me work."

The slow minutes passed. Smoke centered his soul on the dull hurt of a hang-nail on one of his fingers. He should have clipped it away that morning—it was hurting then—he decided; and he resolved, once clear of the crevasse, that it should immediately be clipped. Then, with short focus, he stared at the hang-nail and the finger with a new comprehension. In a minute, or a few minutes at best, that hang-nail, that finger, cunningly jointed and efficient, might be part of a mangled carcass at the bottom of the crevasse. Conscious of his fear, he hated himself. Bear-eaters were made of sterner stuff. In the anger of self-revolt he all but

hacked at the rope with his knife. But fear made him draw back the hand and to stick himself again, trembling and awestruck, to the slippery slope. To the fact that he was soaking wet by contact with the thawing ice, he tried to attribute the cause of his shivering, but he knew, in the heart of him, that it was unwise.

A gasp and a green and an abrupt slackening of the rope, warned him. He began to slip. The movement was very slow. The rope tightened loyally, but he continued to slip. Carson could not hold him, and was slipping with him. The digging toe of his farther-extended foot encountered vacancy, and he knew that it was over the straight-away fall. And he knew, too, that in another moment his falling body would jerk Carson's after it.

Blindly, desperately, all the vitality and life-love of him batten down in a flashing instant by a shuddering perception of right and wrong, he brought the knife-edge across the rope, saw the strands part, felt himself slide more rapidly, and then fall.

What happened then, he did not know. He was not unconscious, but it happened too quickly, and it was unexpected. Instead of falling to his death, his feet almost immediately struck in water, and he sat violently down in water that splashed coolingly on his face. His first impression was that the crevasse was shallower than he had imagined and that he had safely fetched bottom. But of this he was quickly disabused. The opposite wall was a dozen feet away. He lay in a basin formed in an outjett of the ice-wall by melting water that dribbled and trickled over the bulge above and fell sheer down a distance of a dozen feet. This had hollowed out the basin. Where he sat the water was two feet deep, and it was flush with the rim. He peered over the rim and looked down the narrow chasm hundreds of feet to the torrent that foamed along the bottom.

"Oh, why did you?" he heard a wail from above.

"Listen," he called up. "I'm perfectly safe, sitting in a pool of water up to my neck. And here's both our packs. I'm going to sit on them. There's room for a half dozen here. If you slip, stick close and you'll land. In the meantime you hike up and get out. Go to the cabin. Somebody's there. I saw the smoke. Get a rope, or anything that'll make rope, and come back and fish for me."

"Honest?" came Carson's incredulous voice.

"Cross my heart and hope to die. Now, get a bundle on, or I'll catch my death of cold."

Smoke kept himself warm by kicking a channel through the rim with the heel of his shoe. By the time he had drained off the last of the water, a call from Carson announced that he had reached the top.

After that Smoke occupied himself with drying his clothes. The late afternoon sun bent warmly in upon him, and he wrung out his garments and spread them about him. His match-case was waterproof, and he manipulated and dried sufficient tobacco and rice paper to make cigarettes.

Two hours later, perched naked on the two packs and smoking, he heard a voice above that he could not fail to identify.

"Oh, Smoke! Smoke!"

"Hello, Joy Gastell!" he called back. "Where'd you drop from?"

"Are you hurt?"

"Not even any skin off!"

"Father's paying the rope down now. Do you see it?"

"Yes; and I've got it," he answered. "Now, wait a couple of minutes, please."

"What's the matter?" came her anxious query, after several minutes. "Oh, I know you're hurt."

"No, I'm not. I'm dressing."

"Dressing?"

"Yes. I've been in swimming. Now! Ready? Haul away!"



He sent up the two packs on the first trip, was consequently rebuked by Joy Gastell, and on the second trip came up himself.

\* \* \* \* \*

Joy Gastell looked at him with glowing eyes, while her father and Carson were busy coiling the rope.

"How could you cut loose in that

splendid way?" she cried. "It was—it was glorious, that's all."

Smoke waved the compliment away with a deprecatory hand.

"I know all about it," she persisted. "Carson told me. You sacrificed yourself to save him."

"Nothing of the sort," Smoke lied.

"I could see that swimming pool right under me all the time."

(In the August issue of MacLean's Magazine, the eighth Tale in the Smoke Bellow series, "The Hanging of Cultus George," will appear).

## The Loafing Habit

One of the most fatal habits is that of taking things easy, the habit of loafing, of killing time, of sitting around and dreading one's task. The way to rob a nettle of its sting is to grasp it quickly, vigorously, not to fool with it. Many people are like this when they play with a spoonful of medicine because they dread to swallow the bitter disagreeable remedy. They make the dreaded thing infinitely worse by putting it off.

I know people who always have a lot of put-off disagreeable tasks, waiting until they "feel like it." They are like the general who skipped all the difficult fortresses and took his army along the line of least resistance. By and by these neglected posts fired upon his army and gave him a constant annoyance.

The way to rob a task of its disagreeableness is to tackle it promptly and vigorously and get it out of the way. This habit of playing with a spoon before taking a disagreeable medicine only delays the torture. Swallow it quickly and have done with it.

Fight against the loafing propensity, the habit of dawdling and putting off disagreeable things as you would fight for your life in a desperately dangerous situation. Apathy is a terrible foe of achievement.

## Doing the Fall Fairs

AN EXPOSURE OF THE SCHEMES WHICH HAVE BEEN WORKED  
BY FAKIRS AT SOME EXHIBITIONS IN CANADA.

The fall fair season will soon be with us. Already directors of exhibitions are formulating their plans for thrillers. In this article, which is in the nature of a humorous exposure, the public is given a glimpse behind the scenes, and is shown something of the methods which are followed by professional fakirs in "Doing the Fall Fairs." The incident on which the story is based actually happened, but in justice to the Fairs it should be said that the various organizations are now co-operating throughout Canada in an effort to eliminate, so far as possible, all attempts to fleece the public, even though it does, as Pearson avowed, "like to be humbugged."

By James P. Haverson

"THERE'S one thing a guy's got to have to work the fall fairs, and that is nerve. If he's got that he don't need much else." This talismanic wisdom was handed out late one night, or to be accurate, early one morning, by my friend the ex-reporter, ex-advertising man, ex-mail order merchant and exactly anything else to which a man could turn his hand or fertile brain by way of easing a living out of an iron-fisted and stout-hearted world.

This man had the nerve, also he had one sick crocodile, one \$125 snake, and, later annexed Nellie, the Wild Girl. With these he successfully worked the fall fairs, not in distant lands, but right here in Canada, and by tickling, prodding and otherwise irritating the curiosities of our own home-grown tillers of the soil enticed, inveigled and extracted a sufficient number of nickels and dimes from their well guarded pockets to keep him, not only grub-staked and provided with pocket money, but also, on his return to his native pavements,

to allow of the purchase of much weirdly-colored and grotesquely carved raiment.

This is how it was done as he tells it, and every one who has gazed open-mouthed and wide-eyed at the assorted wonders set forth in the side shows of our fall fairs should read if they would know just what sort of a run they got for their money, if any was expended by them.

"Over at the Toronto Island," said my friend, "there was a guy with a crocodile doin' a dime show stunt. He wasn't makin' it go very good. The crock had cost him about \$150 duty and all. He tried the game for about three days, and then was so close to the cushion that he hadn't the heart to keep it up. I sat in and listened to him tellin' what a thorny path a guy in the show business had to go, and finally purchased the crock for 25 cents.

"Talkin' it over with a friend of mine, we decided to take a whiff at the fall fairs, but figured that we'd need

more than this one crocodile to go up against that game. The crocodile seemed to be dyspeptic and just about as down hearted as the guy I bought him from." Beside that, it was only right that my friend should put something into the show if we were to split the gale receipts two ways and break even. My friend came in with a sixteen-foot snake that weighed in at 100 pounds, also he got hold of a bird, a macaw, I think it was. It couldn't talk, but gee! it had great feathers on its head.

"This was our outfit together with a tent and some sort of petrified fish when we went up against our first fair. The first one was at Oshawa, not far from Toronto. We got our tents up and everything set before the first rube showed up. I went out to the front to do the spiel, and they had to be rubes proper to fall for it, for I was new at the game then and nervous than any jelly fish in the show business. I put up a talk startin' in with the crock and windin' up with the spiked fish that got the cash anyway, though I don't know how they swallowed it. It would have been just about as easy to swallow the whole show tent, snake, crock, spiked fish and everything.

"Gentlemen," I says, "and ladies as well, this here crocodile is known as Betsy. This here is the only black web-footed crocodile that was ever brought to this country alive and in captivity in a tank. This here crocodile was one of the seven sacred crocodiles of Chief Tananika, who was in his time just about the powerfulst of all the Northern African kings. These here seven crocodiles were used for the especial, awful and ghastly purpose of devouring prisoners of war.

"Chief Tananika kept these here crocodiles in a small lake which was known to Europeans as the black pool. This here black pool is situated 700 miles south of the mouth of the Nile River, and was first discovered by Livingston, the famous explorer, in one of his expeditions into that there im-

passable country. Three years ago, after the war with the mad Mullah, Major Clark, the explorer and soldier, with a party of 300 men took Chief Tananika prisoner and captured three of his largest, blackest and savagest crocodiles. Ladies and gentlemen, this here crocodile, which we have before you in this here tent to-day is the largest of them three captured crocodiles. The other two smaller ones are in the London Zoological Gardens right now, if they ain't escaped."

"Just about here," explained my friend, "the guy inside the tent would pull on a roined string in a tin pen, and then there was an awful roar. Another guy that we had hired showed a piece of meat on a pole behind my back. Then there was another roar, and I jumped inside the tent bollerin' to the men not to feed that crocodile meat. When I got inside I'd shout out, 'What do youse guys mean? Do you want to get that crocodile so furious that we can't run no show to-day? If you don't watch out you'll get bitten yourself.'"

"Of course, you know we didn't feed him no meat. I don't know whether crocodiles is meant to eat meat or not, but the trouble with this here crocodile was that he wouldn't eat nothin', and he died when we was three days out. We couldn't lose the crocodile, which was the biggest end of the show at this stage of the game, and so we cut him open and stuffed him with salt. He acted just about as much alive after that as he did before, but we sort of felt that we had to have somethin' more in our repertory.

"It was about this time that we met up with Nellie, the Wild Girl, and so long as she was with the show it went big. When Nellie quit we was gettin' kind of sick of the show business, and the whole thing bust up, but so long as the wild girl was there we played to a big business."

"What happened to Nellie, the Wild Girl?" I asked, scenting trouble arising

out of the caprices of the eternal feminine.

"Oh, he went home," remarked my friend disgustedly. "You see, his father was a preacher up in Western Ontario, and he didn't like his son to be mixed up with the show business, so he wired him the money to go home, and Nellie went."

My friend gazed ruefully at the well defined net to say playing checks in his remarkable clothing, and moaned again the loss of Nellie, the Wild Girl.

"Gee, he went big," he grumbled at last, "and we sure had him fixed up great, and the guy that was with me had a dandy spiel to go with his stunt. He saved us from talkin' so much about that crock that was gettin' kind of whiffy anyway, and which we had to dump a week before Nellie left us."

"How did you dump the crocodile?" I asked, and my friend grinned broadly as he replied: "You see it was this way: We figured that crock had lived just about as long as any dead crock should, and Nellie was gittin' to kinda kick about him being in the tent where he had to sleep, so one night the three of us packed him on our shoulders and dumped him into a farmer's field. We never heard what the farmer said nor what he thought, for we moved out of town early next morning. After that Nellie was pretty much the whole show. We had him fixed up wid a long wig of black hair comin' to his waist, a blue sailor blouse and a red skirt, and his bare legs, arms and face was painted brown that they use on the stage to make Indians with. Then we had red and blue marks all over him fixed up to look like tattoo marks. You bet he was some wild looking girl.

"Just before we dumped the crock we sent away to London, Ont., for a banner to string out in front of the tent. There was a guy there that had one, but it wasn't a very good banner for us, because he had used it with a wild man fake, and there was a picture of a great big husky guy with an ugly lookin' club, but not much hair. Nel-

lie had a whole lot of hair, but we didn't have no club for him, and gee! he was skinny. Anyway, as soon as we got Nellie in the game we'd get a five-dollar order of small snakes, and he used to sit in a pit wid the big snake over his knees and the little snakes crawling over his bare feet. I tell you what it is, I don't want none of this wild girl stunt for me own personal performance.

"I used to work in that little prickly fish into the spiel, and put it up to the guys that it was a Japanese sea-horse. Looks here ladies and gents, I'd say, 'we have also for yer inspection a specimen of the rare Japanese sea-horse. If you turn to page 254 of Prof. Baker's great book on Aquatic Phenomena you'll find that he describes this wonderful animal, which is also partly a fish, as the anthonius of the Sea of Japan. This here animal can both swim and walk. It uses them spikes as legs and in its natural state has a head like a horse. This here specimen in the process of dryin' it got shrunk in the neck, and so it don't look as much like a horse at that end as it did when alive."

"We had also a sort of papier mache mermaid thing. We used to tell 'em that this was a petrified mermaid found on the Japanese shores by Captain Silvesthorne, late of the British navy, in a voyage which he made to them parts three years ago. Of course, them guys was awful fish to fall for a talk like that, but if you handed out to the ordinary guy that all the stuff you're tellin' 'em is set down in good, honest print, in a scientific book he's gonn' to tumble for it every time. He don't know whether it's there or not, and even if he thinks it's phoney he ain't got the nerve to call yer bluff, provided you say it good and loud and look awful sure. The average guy would rather take a chance on noddin' his head and lookin' wise so as the rest of the bunch will think that he's read the book, too, and is a regular educated gake.

"All this spiel had to be shouted out good and loud, and we had to keep it

up for quite a while, as you've got to get yer crowd outside before you get 'em inside. Once we had a good, big crowd outside we'd close down on the spiel a little and pull 'em in at fifteen cents a throw. Once we got a bunch inside all we had to do was kick up any kind of a row inside the tent, and the bunch outside would come crowdin' in as fast as they could get.

"After the croak had croaked there would be some of the guys what thought he didn't look as fierce as we had said in the spiel, and some of 'em used to wonder, I guess, how it was that he never roared when there was anyone inside the tent. But if any guy seemed to think he wasn't real fierce all you had to do was to pull a bunch of bills out of yer pockets and offer 'em to any guy that was game to put his hand in the crocodile's mouth. There wasn't one that ever called this bluff. Gee, if over any guy had offered to he would have had to pry that croak's mouth open," chuckled my friend the showman in evil glee.

"When the bunch started to go out," he continued, still chuckling, "the man on the door would look at 'em hard in the face and set 'em if it wasn't a wonderful show, and if they wasn't satisfied. If you pin a guy down like that he's goin' to say yes every time. He ain't got the nerve to tell you to yer face that yer show's a tank, even if he thinks so.

"After we'd get in the easy bunch at fifteen cents, fer there's always a bunch that's goin' to crowd into a show anyway, you couldn't keep 'em out, we used to have to get busy with a hand axe. When they began to come hard we'd raise a howl in the tent that some of the guys had been bitten by the croc. One time a fellow got his hand out in the merry-go-round and squeaked in at the back of the tent. He went runnin' out of the front yellin' that he'd been bit and waving his hand with the blood on it. Forty fifteen centers came in on that bluff," he mused with a reminiscent grin of satisfaction.

He took up the tale anew. "We didn't always have a guy with a cut hand around but so long as there was anyone goin' in more was pretty sure to follow and the guys workin' in the different shows used to help each other out. Some of the guys from another show would come around when a fellow was pullin' his spiel, and if the regular rubes wasn't makin' no break to come in, the speller would yell; "Shill," which meant that some of these phoney customers was to crowd forward, pay their money and hustle into the show as if they'd only been livin' up till now in the hope of some day bein' able to see it.

"But when that croc had to be dumped it kinda put a crimp in the show, and when Nellie's father called him home on account of objections to the show business, we didn't have much heart to stick with the game, so we decided to close the show. Some of the bunch struck for home right off the bat but others hated to quit the business flat. We kicked around fer about three weeks selling two dollar fountain pens that cost us a nickel a piece and phoney diamonds and torn gold rings. One of the guys would sell the stuff and the rest would stall for him. That is when the guy was sellin' it one of the stalls would come up and act as if he thought the rings was phoney.

"He'd pull a bottle out of his pocket labelled acid and tell the guy that was sellin' it that he'd soon see if it was gold all right. All there was in that bottle was oil which never hurt no kind of metal. When he dipped the ring in to the stuff and nothin' happened he'd turn away sorta disappointed, sayin' that he guessed it was gold all right, and then some fish was dead sure to buy that ring.

"Gee," he concluded, "There's nothin' to it, a guy can have a whole lot of fun workin' the fall fair. And it's dead easy if you know how and have the nerve."

## An Amateur Professional

By William Hugo Pabke

DOROTHY BENSON was enjoying herself hugely at the Ocean View House. She had just graduated from college, and her immediate horizon bounded a summer of rest and pleasure; her future, a little farther removed, included a fall and winter in Tangier and Egypt. Not the least factor in the pleasure of her stay at Maxtuxet was the arrival of Harry Dale with whom she had been friends since childhood. There had never been the slightest approach to sentiment in their friendship; beyond frank liking and a reciprocal gift of guy companionship they expected nothing of each other, and so were never disappointed.

Harry Dale's chief characteristic was an arrogant confidence in his ability to do things that he knew absolutely nothing about. Moreover, he was always ready to back his own prowess by a bet. He had made his debut at Maxtuxet by challenging a sturdy native to a race in flat-bottomed scows, he to use a single scull against a pair of sweeps wielded by his opponent. As usual, he had jumped at a hasty conclusion, formulating in haphazard manner a profound but useless theory regarding economy of power. Needless to say, he was beaten by three-quarters of a mile. The kindly, off-hand manner in which he paid the large odds of the bet, however, won him instant popularity with the masculine element at the Ocean View which had turned out in force to witness the event. This incident, together with his offer to play billiards for any stakes with a man whom he had just met, and who afterwards turned out to be an amateur champion, caused him to be the butt of considerable good-natured quizzing.

One brilliant afternoon, shortly after his arrival, he dashed down the level mile from the station in a shining, new motor-car. He turned a short corner into the drive-way, demolishing a gorgeous but flimsy railing, and, before he could control his motor climbed part way up the steps leading to the hotel piazza.

He was greeted by a burst of laughter from the group of girls above him, and a yell of derision from the proportionately small circle of men.

He reversed quickly, unconsistently turning his steering gear. The machine bumped heavily down the steps, and the rear wheels ruined a geranium bed; a quick turn to the left, and a baby carriage, fortunately empty, had passed into the category of useless things. The men on the piazza were doubled up in helpless mirth, the girls voicing their glee in hysterical laughter. Harry, not the least crestfallen, sat calmly in the motionless car with the men of one justly proud of a great achievement.

"Where did you get it?" gasped Dorothy, as coherently as her merriment permitted.

"It belongs to Charles. He's going abroad and sent this beauty to me to keep in order for him," explained Harry, gazing in amusement at his hearers whose mirth increased with his answer.

"Say Dot, won't you come out for a little spin? Oh do, please."

"Well I guess not," in solo, and then in chorus from the bystanders.

"What have I ever done to you, Harry, that you should wish to treat me so?" asked Dorothy.

"Why shouldn't you go? You're not afraid, are you?"

"Oh Dale, Dale, you're incorrigible!" laughed Mr. Breckage from the back-ground. "You prove conclusively that you shouldn't be trusted with even your worthless self in an automobile, and then you ask for the responsibility of a fair passenger."

At this moment a stout, cheerful little woman emerged from the hotel office and approached the group.

"My dear," she began, addressing Dorothy, "Did I hear Harry Dale threatening to do something awful to you?"

"Not particularly awful, Aunt Jane, I'm only wanted to murder me. I don't understand his motive, for —"

"Now Miss Jane," broke in Harry, "I merely asked Dot to ride in my car, or rather my brother's, and very body's been raising the deuce of a row. I don't see why."

"Who broke that railing? Who plowed up that flower bed? Who is responsible for that pathetic little heap of sticks and lace?" asked Miss Jane, indicating with stern forefinger the component parts of the debris scattered over the lawn.

"Oh well, that happened while I was getting my practice," said Harry easily. "But I'm all right now." He looked defiantly at the smiling half-circle.

The elder Miss Benson put an end to the discussion by telling Dorothy that she needed her. They went to their rooms, leaving Harry tinkering with his new toy, and beginning the explanation of a weird theory of motoring to an interested but unbelieving audience.

As soon as Miss Jane had settled her comfortable bulk in the only chair in her room which was adequate to the task of supporting it, she held out a letter to her niece.

"Oh Dorothy," she said tearfully, "It's awful news. It's from your father. I don't know what we shall do. I'm sure we'll all have to go to the poor-house; anyway, we'll have to discharge cook and the coachman."

"There, there, Aunt Jane, I'm sure it's not so bad as you think," said Dor-

othy soothingly, taking the letter. She read:

Dear Jane:

I hope you and Dot are enjoying yourselves. I have met with severe financial reverses on account of the failure of the Anderson deal, which I had planned at this time because Breckage was out of town.

He was apparently the only barrier to my success, but other interests opposed mine at the last, and—well, it's all over but the cheering. You and the child needn't change your plans for the present, but please be prepared to curtail all unnecessary expenses in the future.

Your aff. brother,

Jas K. Benson.

P.S.—Be sure to say nothing of this to Breckage nor to his wife.

J.K.B.

"Do you suppose Mrs. Breckage would know anything about this?" asked Miss Jane tentatively.

"What good would it do if she did know about it?" asked Dorothy.

"I'm going to ask her, anyway. I can't stand this suspense—it's so indefinite."

"But Dad told you not say anything about it," protested Dorothy.

"You may trust me, my dear. I shall be very discreet, and shall find out everything that I can without telling anything."

Miss Jane started off in search of her violin, leaving her niece to think over the situation by herself. Like all galleless people, Miss Jane considered herself very deep. This very confidence in her own impenetrability would have made the coming contest with Mrs. Breckage all the more puerbly ridiculous to an observer who was conversant with the antagonists' characteristics.

Mrs. Breckage was a handsome woman with a haughty, immobile face and the manner of a grande dame. She by no means wore her heart on her sleeve. There was but one person in the world who knew the wealth of love that she

showered on her husband, and the innumerable business secrets that she shared with him, and that person was Breckage, the financier. She was sitting alone in a sequestered angle of the wide veranda when Miss Jane came trotting by in search of her.

"Oh, Mrs. Breckage, I feel so horrid and grumpy and want some one to talk to, and you'll do as well as any one else," panted Miss Jane with a fine disregard of flattery.

Mrs. Breckage laughed languidly and laid an inviting hand on the chair beside her. She really liked the little old maid and admired her for replacing so well the mother that Dorothy had never known. For this reason she forgave her crudities of manner.

"Do you know anything about Mr. Breckage's deals?" asked Miss Jane calmly.

"Women rarely know much about their husband's business affairs," responded Mrs. Breckage with grave vagueness.

"That doesn't tell me much," thought her inquirer. Then aloud: "But do you know anything about a scheme that he and my brother are in together—no, not together, but against each other—and which Jim should have come out ahead in so long as Mr. Breckage was out of town, but he didn't?" After this coherent and strategic utterance she leaned forward and gazed imploringly at the passive face before her.

The financier's wife thought she did know all too much about such a deal. It was the only business that was taking her husband away from her after their short, happy week together, and she had inveighed bitterly against Jim Benson for being the cause of their premature separation.

"You say that Mr. Benson failed in some scheme in which my husband was to fight his interest?" she asked.

"Why, yes, that's it. He wrote me that he had met with financial reverses and that all was over but the cheering."

The other looked decidedly interest-

ed but hardly sympathetic. Was it possible that simple little Miss Jane knew about the Anderson coup? "Why did you ask if I knew anything about business affairs?" she queried.

"You see," blundered Miss Jane, "I thought you might tell me if this was very serious. I'm so distressed—and the suspense is just terrible."

"If you told me which particular operation it is, I might be able to give you an idea as to its magnitude."

"I—I don't know that I ought to," stammered Miss Jane. "Jim told me not to, but I don't see what harm it can do, and it will relieve my mind so much. It's the—let me see—yes, 'the Anderson deal.'"

"Oh, I'm so glad," cried Mrs. Breckage impulsively, seeing the vision of another week's happiness before her. Her husband had told her that his associates might be able to pull off the deal without him. They were confident of their ability and had insisted upon his going away for a rest in accordance with his doctor's instructions. So the matter was closed up already and he could spend another long, delicious week with her.

"How can you say you're glad?" complained Miss Jane.

"I meant that I was glad it was no worse," replied the other mendaciously.

"And you don't think we'll all have to go to the poor-house?"

"Nonsense. If I were you, I'd have implicit confidence in that very clever brother of yours. Jim Benson will never let you or Dorothy want for anything."

"Oh, thank you for explaining everything to me," cried Miss Jane fervently. "I must run along and comfort my poor child."

Dorothy, when left alone, had grimmers set her teeth and thought matters over. Her beautiful, rose colored plans for the fall and winter had to give way to the new conditions. What did it all mean? She could hardly realize it as her father had heretofore been invariably successful. Deep in her heart she

had a feeling that all would come right in the end; somehow, her father always made things come right.

She was a healthy young person, to whose nature brooding was entirely foreign. She made up her mind to enjoy the present anyway, and let the future take care of itself. With this object in view she went down stairs to join Harry's audience.

As she came on to the veranda, she heard his loud, boyish voice exclaiming: "There's not a drop of sporting blood in the whole crowd. The only one who had anywhere near enough nerve to take me up was Miss Hastings." He glanced toward a piquante blonde perched on the railing. "She would have taken the bet if she hadn't been afraid of maternal disapproval. You men, I say, ought to be ashamed of yourselves."

"What is the matter with the boy? He seems to be unduly excited," cried Dorothy.

"Oh, Harry has been giving us a lecture on 'How to Speed an Automobile Without Wasting Gray Matter,'" said Billy Royce, a large young man with an easy manner. "He wants to back his theory by racing all comers to Quisset and back for a thousand dollars," he continued, seeing that he had an interested listener in Dorothy.

"None of us want to take his money," said one of the older men.

"I did," chirped little Miss Hastings; "but I knew Mamma wouldn't let me."

"That's right," said Harry. "She did; she's dead game."

"How do you know that you'd get his money?" asked Dorothy, of Billy Royce.

"You haven't heard his theory yet, or you wouldn't ask that," he answered. "It's the most—"

"It's just this," interrupted Harry. "I say that in a race you want to forget there's a half-speed notch for your lover. Just feed in all the power you've got. The man that has the nerve to keep it there all through the race, wins."

"Hear him talk," jeered Royce. "All the experience that he's had in motor-racing consists of smashing one railing, one gramum bed, and one baby carriage."

Dorothy thought quickly. She remembered the stretch of soft sand a mile this side of Quisset. Then the absurdity of Harry's speed theory impressed itself upon her.

"Now you people up there have got just one more chance at this bargain," prodded Harry. "Cheap, dirt cheap at the price, hot and cold water in every room, only fifteen minutes' walk from the station, entrancing view, healthful locality, especially for children—going—going—what, no takers?"

Dorothy had made up her mind. Of course her father would disapprove—but, would he? Aunt Jane—oh well, Aunt Jane always let her do things, especially if she didn't know about them until after they were done. Then these plans. Those beautiful plans which had been so vague a few moments before. Besides, Dale Senior's millions could stand it.

"What would you do if some one really took you up, Harry?" she asked mockingly.

"Do?" exploded Harry. "Why, I'd buy champagne for the crowd after the race, and what was left I'd use as a first installment toward paying for a car of my own."

"I'll take your bet and your money too without compunction; you need a lesson," cried Dorothy, coming down the steps and holding out her slim hand to him by way of confirmation.

"Mr. Breckage, may I borrow your car for the occasion?" She called over her shoulder.

"You're welcome to it," said the financier, "and I'm happy to be able to see the event as I've just had word that I may stay here another week." He smiled knowingly at his wife who had joined him immediately after hearing Miss Jane's news, and had imparted the glad tidings to him.

Long before the usual breakfast time

the next morning, Dorothy came down stairs, veiled and gloved, and joining her loyal supporters, proceeded to the course.

The beach was deserted at this early hour and showed an unbroken strip of creamy white, curving slightly to the left toward Quisset, plainly visible across the crescent of blue water, sparkling in the sunlight. As Billy Royce staked down a piece of white canvas at the water's edge, little Miss Hastings remarked: "This reminds me of stretching the ribbons down the aisles at a church wedding."

"Don't mix sentiment with business, Miss Hastings," cried Harry gaily, bringing the front wheels of his car into position on the starting line beside Dorothy.

"I feel so shivery," said Miss Hastings in a hushed little voice, her face alive with excitement.

Billy Royce drew a pistol from his pocket, and facing about, cried: "Are you ready? Answer! Miss Benson?"

"Ready!"

"Mr. Dale?"

"Ready!"

A flash, a sharp report, and the race had begun.

Before the signal Harry had been leaning forward eagerly, ready to burst into full speed at once, while Dorothy had sat as calmly erect as though she was about to start on a round of calls. Harry shot ahead, and Dorothy was content to follow, leaning to the leader the strain of breaking the wind and making the pace. The boy raced without method while his shrewd opponent constantly watched the course, skirting bunches of marsh-grass and avoiding all irregularities. As they neared the mile-long stretch of soft sand which ended at the pier at Quisset, Dorothy's heart beat fast with excitement. Upon Harry's tactics during this part of the race depended her chance of winning.

Suddenly she saw a cloud of wet sand flying from his driving wheels, and in an instant she was gaining perceptibly. Harry, true to his theory,

maintained full power, endeavoring to push through the obstruction by the sheer force of his motor.

When she was within one hundred yards of the dark, wet sand, Dorothy slowed down to half speed and carefully entered the dangerous territory. Without a slip, she forged ahead, and, turning slightly to the left, she passed him.

She didn't look back once until, with a gasp of relief, she felt the tires of her car gripping the hard road leading to the pier. Then she turned about for the finish and saw Harry not half way through the clinging sand. Again using her policy of discretion she reversed the treacherous mile, and the road stretched straight before her to victory.

Not until she was within half a mile of the finish did Dorothy's face show any excitement. As the watchers became discernable, her eyes dilated, and little by little she increased her speed until she rivalled Harry's pace at the start. She tore along the hard, smooth beach toward the group at the finish, who watched with bated breath. One moment she could recognize the faces, then she heard the words of encouragement shouted by her friends, and the next instant, her car passed over the line with a wild rush.

She slowed down, and turned to meet the ovation which she foresaw. As she was shaking hands right and left, and talking to five or six clamoring admirers at once, Harry crossed the tape. He leaped from his seat, and ran to congratulate her with the same wholehearted enthusiasm that he had displayed before the race.

"Dot, you're a wonder!" he cried, handing her a check that he had written for ten in case of his defeat.

One morning, a week after the race, Jim Benson appeared suddenly at the Ocean View. As he alighted from the bus he bowed himself to meet the onslaught of a slim young person who rushed down the path to greet him.

"Oh Dad, I never was so glad to see you!" cried Dorothy. "No sir," she continued; "you're not going to register now. You're going for a walk with me—I've got just volumes to tell you." She drew the big man after her in the direction of the beach.

"From your ingratiating manner I infer that you have something to confess," said he quizzically.

"Oh, I have! I must confess first, and then I shall snub you for your insinuations. I did something very, very bad; but, oh Dad, I did want the money so much."

"Money? Why, you haven't forged my name, have you?" asked her father in mock horror.

"Pretty nearly as bad," said Dorothy, hanging her head. "I used Harry Dale to Quisett and back in Mr. Breckage's motor car for—oh dear—for a thousand dollars and—and won it!" This last was a wail of anguish.

"And—oh, what! won it? Well done, little girl," Benson patted his daughter's shoulder approvingly.

"I'm so glad it's off my mind," sighed Dorothy.

"But I don't quite understand," said her father in a puzzled tone, "why, if you didn't want to keep the money, you didn't return it to Harry."

"I needed it so very much."

"Needed it? How so?"

"Why, your letter, the one to Aunt Jane, saying that you had met with financial reverses—"

"I see, so Jane told you about that?"

"Yes, and she told Mrs. Breckage, too."

"You don't say so!" laughed Benson.

"Dot," he continued, "you're worthy of being in my confidence. For a long time I've been trying to get control of the Anderson corporation. Breckage's was the only influence that kept me out. Two weeks ago he came down here and I planned a coup for that time. Therefore, I wrote to your Aunt as I did, knowing that she would disabuse me and tell Mrs. Breckage. Mrs. Breckage told her husband, of course, and he, secure in his supposed knowledge that I had been defeated by his crowd, extended his vacation by a week. That week was just enough, and I guess we needn't worry about cutting down expenses yet a while."

"You clever Dad!" laughed Dorothy.

"If I give Harry back his check, you can afford to make it up to me."

"Hereafter, whenever you want a little thing like a thousand, you may come to your old father for it; he's not out of the ring yet," said Jim Benson chuckling with keen delight.

## Monumenting Canada

THE GREAT WORK WHICH IS BEING ACCOMPLISHED  
BY THE INTERNATIONAL BOUNDARY SURVEYS  
ALONG THE BORDER

By Oscar Y. Brown

The International Boundary Surveys! There is something new in the very term. How many Canadians know anything of the existence of such a body or of its work? Yet the personnel of the organization, men of strength and purpose, and the character of its duties, often perilous in the extreme, are highly deserving of public attention and recognition. Under those circumstances the accompanying story, telling of "Measuring" the international boundary line between Canada and the United States will be of special interest.

THE International Boundary Surveys! How little the words mean to most Canadians—yes, even to those of us who credit ourselves with a patriotic and consistent interest in the affairs of our native land. Now and then our eye is caught and held for a moment by some brief journalistic notice. Boundary survey parties have gone north to the Yukon, east to New Brunswick or west to the woody mountains of British Columbia. Perhaps it is something half humorous in vein—the tale of a surveyman's wild flight from an imaginary bear, or the taming of a real one. Perhaps tragical—the succinct story of how some treacherous snow cornice yawned under the weight of one young man down-luncheoning him 2,000 feet to snow-buried death at the bottom of a gaping ravine in the Canadian Rockies. One moment the eye is caught and held, but only a moment—just long enough to convey to the mind some fragmentary, seen-to-be-forgotten idea of one little phase of the work. The purpose, the nature, the

significance of the whole scheme are far from generally realized.

Long before the settlement of the Alaska boundary dispute, long before Daniel Webster's triumph over Lord Ashburton, in 1842, disputes had arisen regarding the legal international boundary between Canada and the United States. By a treaty of 1783, the boundaries of the United States were defined as beginning on the east at the mouth of the St. Croix River, and ascending that river to its source. Soon after dispute arose as to which river St. Croix was meant—there being at that time three or more of the same—and in 1794 commissioners were appointed to settle all doubt in the matter, and to determine the mouth and source of the intended St. Croix. Four years later the commissioners reported in favor of the stream which now bears the name, and constitutes the southeastern boundary of New Brunswick. This instance is not given on account of its importance, but as an example of the difficulties besetting those whose work it has been

## Training Under Pressure

Did you ever realize that the finest characters in the world have been trained under the most exacting, the most exasperating, the most unkindly conditions.

Just as the fire consumes all the dross, everything but the pure gold, so hardships, misfortunes, sorrows and disasters clarify and purify character. Many of the strongest men in the world have suffered most, and, no doubt, most of them felt that what they were passing through were misfortunes that were taking a great deal out of them and perhaps ruining their chances in life.

Just as the storms and tempests toughen the fibre of the oak which stands alone on the hillside, while the sapling protected in the thicket is soft and spongy, so the fibre of the man who is trained in the school of adversity is toughened.



Sheslay Lake Valley

to define the international boundary. From the end of the eighteenth to the twentieth century dispute as to the ownership of certain parts of the land along the boundary was almost continuous, and settlers in the vexed territory were never very sure as to whether they were Americans or Canadians.

Now, at last, however, the consummation of all harking, dickering, wrangling and arbitration is clearly discernible in the not very remote future. On June 3, 1908, a treaty between His Majesty and the United States providing for the survey of the whole boundary line from the Atlantic to the Pacific was ratified. The greater part of that work has already been accomplished. The survey is conducted jointly by Canada and the United States under a commission consisting of Dr. W. F. King, Canada's chief astronomer, and Mr. O. H. Titman, superintendent of the United States Coast and Geodetic Survey. Each year since the passage of the treaty, parties, led by surveyors sent from Ottawa and Washington,

have worked amicably along different sections of the boundary from coast to coast, and in the north on the 141st meridian, and other parts of the Alaska boundary. From the very outset the arduous and often hazardous work has been conducted with the greatest international unity, and without duplication of labor. How is the boundary, once surveyed, permanently marked? Some will ask. How is the traveler to know when he steps from the United States into Canada or vice versa? Is the boundary line as mythical as the snail wall? No, it is not, and if the traveler is sufficiently interested to prove the truth of this assertion, he can do so without any very great difficulty



Cathlamet Park, Sheslay Lake

by first finding the 49th parallel somewhere in the plains of the west, then taking a stroll of a few hundred yards along in either direction. It doesn't matter whether he goes east or west so long as he keeps to the 49th. Either way is certain to arrive at proof in the form of a slab of cast iron firmly

planted in a base of concrete that holds it fast to terra firma. South of that



Across Daily Ice Field.

slab he is in a republic, as the words United States, deeply graven on that side will indicate; north of that slab he can know from the word Canada, deeply lettered on its Arctic face, that he is in the Dominion of a great empire. South of that slab the American fugitive from justice can be home off by the sheriff to answer the demands of his country's law; north of it the officer need first prove to the satisfaction of Canadian justice, his right to demand the offender.

#### MONUMENTS AT FREQUENT INTERVALS.

The monuments originally planted along the 49th were of earth and stone, built up to resemble a Scotch cairn. When the re-survey of the line was made in accordance with the new treaty, however, these easily destructible marks were replaced by the more enduring cast iron ones. In mountainous or forest-covered areas slabs of bronze instead of iron are used as these are less easily smashed or over-turned by the rolling of rocks or the falling of trees. The distance between monuments varies considerably with the nature of the country, the general guiding rule being that one should be visible from the next in line. Where the boundary line runs through the middle of a stream or body of water, the monuments are put up along the shore, with markings on them to guide surveyors in ascertaining their local relation to the international divide.

On the Quebec-Maine boundary line surveying and monumenting has been completed along the St. Francis river; considerable work has been done in the forest to the west of it, while more than half the distance from the mouth of the St. Croix to the St. Lawrence has been covered on the New Brunswick and Quebec lines. Two or three more seasons will see the completion of the work in the east. Along the St. Lawrence and through the Great Lakes—a stretch involving great fishing and shipping areas—the boundary delineation has been placed in the hands of

the International Waterways commission, and with that Dr. King and his men have no concern.

It is in the west, however, that the vastest areas have been covered. Along the 49th from the Gulf of Georgia to the Red river, the re-survey has been completed. The prairie farmer no longer decides the land of his residence by a crumbling cairn of weather-worn stones. To make perfectly certain that he is in very truth a Canadian resident and land-owner before casting his ballot he has only to find the nearest iron post, and there's sure to be one not many yards distant.



The Daily Pass

One section along which no work has been done is that which extends from the Lake of the Woods to Superior. The boundary here keeps to waterways, but its course has never been accurately surveyed, mapped or monumented. Survey parties will start work on it next spring. To survey it, however, will not be an easy task for the reason that the country is covered with forest, and has few high points from which to take observations.

As in the mountainous regions of British Columbia, bronze monuments are also used to mark the international boundary between Canada and Alaska. The greater part of the Alaska boundary has been thoroughly gone over. Along the coast strip adjoining British Columbia there yet remains about one

season's work. The 141st meridian, dividing line between Alaska and the Yukon, has been covered away up into the Arctic circle so that one more season will see it completed to the ice-bound coast on the north. At its southern extremity about 90 miles have still to be gone over in the wild, mountainous region of the St. Elias Alps.

#### NATURE OF THE WORK.

From these facts the reader may have gleaned some idea of what has already been accomplished and what yet remains to be done. From them, however, he can have received very little knowledge of the nature of the work carried on by the twelve ruddy Canadian boundary surveyors, their American co-workers, and the parties of husky men who set their camps under the beautiful stars in wilds far removed from the centres of civilization. The hazards, the trials, the thrills of the task—and it has not a few of them—can only be learned from one of these men, bronzed by the Arctic sun, returning in October from far Alaska. They



Guide on summit of Mount Daly.

are not great talkers, these men. Like most men who spend a large part of the year roughing it in the barbaric wilds of native nature, they tell but little of their experience even in their most loquacious moods. Lucky, indeed, is the Vancouver reporter who gleams from them a yarn of some stray adventure with a bear; some narrow escape from death in a gaping crevasse.

The best and easiest way to gain some clear insight into the nature of the work is that thrown open to me by two kind-hearted surveyors who permitted me to look through their albums of photographs taken on several surveys along the Alaska line. Some would almost do for illustrations to articles on Alpine climbing; from others, one would judge that the principal work of the Boundary surveys is the felling of forest trees. Both are merely illustrations of different phases of the largely diversified duties of a boundary surveyor and his men.

Early in May the surveyors, twelve in number, leave their winter offices,

situated at Ottawa, organize their parties—from twelve to 20 men under each surveyor—and set out for the east, the west or the north, whichever it may happen to be. These Alaska-ward bound, take train to Victoria, B.C., and from that beautiful harbor proceed by boat to Skagway. Each party takes to the north sufficient provisions and equipment for the season's work. From Skagway they proceed with pack trains over mountain and through forest to that part of the country in which their season's work is to lie. Through the silent forest ring the buoyant strokes of the sturdy axemen as they widen the clearing for a night's encampment.

The line at last! a cheer rises from their throats as they stumble on the monument marking the end of their last season's work. Perhaps it stands at one end of an alley of clearing hewn through the forest. Perhaps, on the side of a Heaven-kissing hill. In the first case the axemen must shoulder their weapons and lay low a few more of their un-resisting enemies. Lives of



On the Mount Daly ridge.

trees are not spared, although there is no unnecessary destruction of natural resources. The rule that one monument should be visible from the next in line often makes it necessary to cut a swathe through the woodlands. Often also, it is necessary for an observation that a high peak be scaled, or the side of a steep precipice. "Excelsior," cry the men, and up they go till the signal stands on the pinnacle.

Hand in hand work the Americans and Canadians. Sometimes the parties camp side by side, each, however, working on a different section of the line, for no labor is wasted in the survey of the boundaries. Where necessary, however, the parties span the widely. Then one of the Canadian surveyors is appointed to go with the American party, his duty being to see that Canada gets fair treatment. Similarly one of the Americans comes over to the camp of the Dominion's surveyors. Throughout the work there have been no international complications between the boundary workers. Fraternal co-operation



Ascending wall of snow to summit of Mount Daly.



Mount Niles, as seen from the summit of Mount Daly.





A camp fire at Shortbrook Lake Valley.

has right along been the prevailing spirit.

There is little probability that the results of this boundary survey will be ever destroyed. Earthquakes, slowly moving packs of ice and snow, or the down-crashing of huge trees may topple some of the monuments, but no seismic disturbance, no avalanche, no forest accident can affect more than a few. Besides, record is kept of the position of every monument, and every part of the line is mapped with the finest topographical detail. Two sets of these boundary maps go to Canada, two to the United States. In the strong boxes of both nations they shall lie to quell all future disputations on the score of Uncle Sam's northern limit.

#### AND SOMETIMES DANGEROUS, TOO.

Dangerous? The word was used before. Yes, the duties of boundary survey parties—especially those in Alaska—often, lend them into positions that are seasoned with peril. And yet, with all the miles of country that have been covered in the far north, only one life has been lost. The one who perished was a young man named Shepherd from Nanaimo, B.C., under whose feet the snow cornices gave way carrying its victim into the ravines. When one considers that for the erection of every skyscraper in New York, one or more men are sacrificed, the record of the boundary surveyors in Alaska becomes even more creditable and more wonder-

ful in one's eyes. There they have been working in the midst of dangers greater and more imminent than those which jeopardise the laborer on the tall building; working, too, for several years—and only one fatality! Mitter-horns have been scaled; men have been lowered over cliffs with only rope-lines to save them from infinity; ledges of snow that might or might not give way have been traversed or avoided; wild animals have been met by day and night, have been shot, trapped for food or allowed to escape—and only one fatality! Do you wonder that Dr. King feels proud of the record?

The season's work in the field finished, back to civilization go the surveyors and their men. Parties disintegrate, the surveyors returning to their offices at Ottawa; the redmen, chaimen and axemen dispersing to centres where they may most wisely or unwisely rid themselves of their season's earnings. After a summer in the isolated wilds, it is good to spend one's winter in a gay city. Never do the street illuminations seem more alluring than after the play of the Alaskan aurora, or the weird glow of the midnight sun; never does a good comic opera have more fairy-like sweetness than when one has seen no women save Squares for months past—never does a dance seem more dreamily exotic. By the surveyors that part of the winter devoted to confined labor is spent in mapping and arranging the results of the summer's work.



Church service around camp fire.

## Psyche and the Pskyscraper

By O. Henry

IF YOU are a philosopher you can do this thing; you can go to the top of a high building, look down upon your fellow-men 300 feet below, and despise them as insects. Like the irresponsible black waterbugs on summer ponds, they crawl and circle and hustle about idiotically without aim or purpose. They do not even move with the admirable intelligence of ants, for ants always know when they are going home. The ant is of a slowly station, but he will often reach home and get his slippers on while you are left at your elevated station.

Man, then, to the housetopped philosopher, appears to be but a creeping, contemptible beetle. Brokers, poets, millionaires, bootblacks, beauties, hoddies and politicians become little black specks dodging bigger black specks in streets no wider than your thumb.

From this high view the city itself becomes degraded to an unintelligible mass of distorted buildings and impossible perspectives; the revered ocean is a duck pond; the earth itself a lost golf ball. All the minutiae of life are gone. The philosopher goes into the infinite heavens above him, and allows his soul to expend to the influence of his new view. He feels that he is the heir to Eternity and the child of Time. Space, too, should be his by the right of his immortal heritage, and he thrills at the thought that some day his kind shall traverse those mysterious aerial roads between planet and planet. The tiny world beneath his feet upon which this towering structure of steel rests as a speck of dust upon a Himalayan mountain—it is but one of a countless number of such whirling atoms. What are

the ambitions, the achievements, the petty conquests and loves of those restless black insects below compared with the serene and awful immensity of the universe that lies above and around their insignificant city?

It is guaranteed that the philosopher will have these thoughts. They have been expressly compiled from the philosophies of the world and set down with the proper interrogation point at the end of them to represent the invariable musings of deep thinkers on high places. And when the philosopher takes the elevator down his mind is broader; his heart is at peace, and his conception of the cosmogony of creation is as wide as the buckle of Orion's summer belt.

But if your name happened to be Daisy, and you worked in an Eighth Avenue candy store and lived in a little cold hall bedroom, five feet by eight, and earned \$6 per week, and ate ten-cent lunches and were nineteen years old, and got up at 6.30 and worked till 9, and never had studied philosophy, maybe things wouldn't look that way to you from the top of a skyscraper.

Two sighed for the hand of Daisy, the unphilosophical. One was Joe, who kept the smallest store in New York. It was about the size of a tool-box of the D. P. W., and was stuck like a swallow's nest against a corner of a down-town skyscraper. Its stock consisted of fruit, candies, newspapers, song books, cigarettes, and lemonade in season. When stern winter shook his congealed locks and Joe had to move himself and the fruit inside, there was exactly room in the store for the proprietor, his wares, a stove the size of a vinegar cresset, and one customer.

Joe was not of the nation that keeps us forever in a furor with fuggies and fruit. He was a capable American youth who was laying by money, and wanted Daisy to help him spend it. Three times he had asked her.

"I got money saved up, Daisy," was his love song; "and you know how bad I want you. That store of mine ain't very big, but—"

"Oh, ain't it?" would be the antiphrasy of the unphilosophical one. "Why, I heard Wanamaker's was trying to get you to sublet part of your floor space to them for next year."

Daisy passed Joe's corner every morning and evening.

"Hello, Two-by-Four!" he was usual greeting. "Seems to me your store looks emptier. You must have sold a package of chewing gum."

"Ain't much room in here, sure," Joe would answer, with his slow grin, "except for you, Duise. Me and the store are waitin' for you whenever you'll take us. Don't you think you might before long?"

"Store!"—a fine scorn was expressed by Daisy's uplited nose—"sardine box! Waitin' for me, you say? Gee! you'd have to throw out about a hundred pounds of candy before I could get inside of it, Joe."

"I wouldn't mind an even swap like that," said Joe, complimentary.

Daisy's existence was limited in every way. She had to walk sideways between the counter and the shelves in the candy store. In her own hall bedroom coyness had been carried close to cohesiveness. The walls were so near to one another that the paper on them made a perfect babel of noise. She could light the gas with one hand and close the door with the other without taking her eyes off the reflection of her brown pompadour in the mirror. She had Joe's picture in a gilt frame on the dresser, and sometimes—late her next thought would always be of Joe's funny little store tacked like a soap box to the corner of that great building, and

away would go her sentiment in a breeze of laughter.

Daisy's other suitor followed Joe by several months. He came to board in the house where she lived. His name was Dabster, and he was a philosopher. Though young, attainments stood out upon him like continental labels on a Pissac (N. J.) suit-case. Knowledge he had kidnapped from cyclopedias and handbooks of useful information; but as for wisdom, when she passed he was left sniffling in the road without so much as the number of her motor car. He could and would tell you the proportion of water and muscle-making properties of pens and veal, the shortest verse in the Bible, the number of pounds of shingle nails required to fasten 256 shingles laid four inches to the weather, the population of Kankakee, Ill., the theories of Spinoza, the name of Mr. H. McKay Twombly's second hall footman, the length of the Hooson Tunnel, the best time to set a hen, the salary of the railway post-office messenger between Driftwood and Red Bank Furnace, Pa., and the number of bones in the foreleg of a cat.

This weight of learning was no handicap to Dabster. His statistics were the sprigs of parsley with which he garnished the feast of small talk that he would set before you if he consorted that to be your taste. And again he used them as breastworks in foraging at the boarding-house. Firing at you a volley of figures concerning the weight of a lined foot of bar-iron 5 x 2½ inches, and the average annual rainfall at Fort Snelling, Minn., he would transfuse with his fork the best piece of chicken on the dish while you were trying to rally sufficiently to ask him weakly why does a hen cross the road.

Thus, brightly armed, and further equipped with a measure of good looks, of a hair-oily, shopping-district-at-three-in-the-afternoon kind, it seems that Joe, of the Lilliputian emporium, had a rival worthy of his steel. But Joe carried no steel. There wouldn't have

been room in his store to draw it if he had.

One Saturday afternoon, about four o'clock, Daisy and Mr. Dabster stopped before Joe's booth. Dabster wore a silk hat, and—well, Daisy was a woman, and that hat had no chance to get back in its box until Joe had seen it. A stick of pineapple chewing gum was the ostensible object of the call. Joe supplied it through the open side of his store. He did not pale or falter at sight of the hat.

"Mr. Dabster's going to take me on top of the building to observe the view," said Daisy, after she had introduced her admirers. "I never was on a skyscraper. I guess it must be awful nice and funny up there."

"H'm!" said Joe.

"The panorama," said Mr. Dabster, "exposed to the gaze from the top of a lofty building is not only sublime, but instructive. Miss Daisy has a decided pleasure in store for her."

"It's windy up there, too, as well as here," said Joe. "Are you dressed warm enough, Daisy?"

"Sure thing! I'm all lined," said Daisy, smiling slyly at his clouded brow. "You look just like a mummy in a case, Joe. Ain't you just put in an invoice of a pint of peanuts or another apple? Your store looks awful overstocked."

Daisy giggled at her favorite joke; and Joe had to smile with her.

"Your quarters are somewhat limited, Mr.—er—er," remarked Dabster, "in comparison with the size of this building. I understand the area of its side to be about 340 by 100 feet. That would make you occupy a proportionate space as if half of Beloschiston were placed upon a territory as large as the United States east of the Rocky Mountains, with the Province of Ontario and Belgium added."

"Is that so, sport?" said Joe, genially. "You are Weissenheimer on figures, all right. How many square pounds of baled hay do you think a jackass could eat if he stopped brayin' long enough to

keep still a minute and five eighths?"

A few minutes later Daisy and Mr. Dabster stepped from an elevator to the top floor of the skyscraper. Then up a short, steep stairway and out upon the roof. Dabster led her to the parapet so she could look down at the black dots moving in the street below.

"What are they?" she asked, trembling. She had never before been on a height like this before.

And then Dabster must needs play the philosopher on the tower, and conduct her soul forth to meet the immensity of space.

"Bipeds," he said, solemnly. "See what they become even at the small elevation of 340 feet—mere crawling insects going to and fro at random."

"Oh, they ain't anything of the kind," exclaimed Daisy, suddenly—"they're folks! I saw an automobile. Oh, gee! are we that high up?"

"Walk over this way," said Dabster.

He showed her the great city lying like an orderly array of toys far below, starred here and there, early as it was, by the first beacon lights of the winter afternoon. And then the bay and sea to the south and east vanishing mysteriously into the sky.

"I don't like it," declared Daisy, with troubled blue eyes. "Say we go down."

But the philosopher was not to be denied his opportunity. He would let her behold the grandeur of his mind, the half-nelson he had on the infinite, and the memory he had for statistics. And then she would nevertheless be content to buy chewing gum at the smallest store in New York. And so he began to prate of the smallness of human affairs, and how that even so slight a removal from earth made man and his works look like the tenth part of a dollar thrice computed. And that one should consider the sidereal system and the maxims of Epictetus and be comforted.

"You don't carry me with you," said Daisy. "Say, I think it's awful to be up so high that folks look like fleas. One of them we saw might have been

Joe. Why, Jiminy! we might as well be in New Jersey! Say, I'm afraid up here!"

The philosopher smiled fatuously.

"The earth," said he, "is itself only as a grain of wheat in space. Look up there."

Daisy gazed upward apprehensively. The short day was spent and the stars were coming out above.

"Yonder star," said Dahster, "is Venus, the evening star. She is 66,000,000 miles from the sun."

"Fudge!" said Daisy, with a brief flash of spirit, "where do you think I come from—Brooklyn? Susie Price, in our store—her brother sent her a ticket to go to San Francisco—that's only three thousand miles."

The philosopher smiled indulgently. "Our world," he said, "is 91,000,000 miles from the sun. There are eighteen stars of the first magnitude that are 211,000 times further from us than the sun is. If one of them should be extinguished it would be three years before we would see its light go out. There are six thousand stars of the sixth magnitude. It takes thirty-six years for the light of one of them to reach the earth. With an eighteen-foot telescope we can see 43,000,000 stars, including those of the thirteenth magnitude, whose light takes 2,700 years to reach us. Each of these stars—"

"You're lyin'," cried Daisy, angrily. "You're tryin' to scare me. And you have; I want to go down!"

She stamped her foot.

"Arcturus—" began the philoso-

pher, soothingly, but he was interrupted by a demonstration out of the vastness of the nature that he was endeavoring to portray with his memory instead of his heart. For to the heart-exponent of nature the stars were set in the firmament expressly to give soft light to lovers wandering happily beneath them; and if you stand tiptoe some September night with your sweetheart on your arm you can almost touch them with your hand. Three years for their light to reach us, indeed!

Out of the west leaped a meteor, lighting the roof of the skyscraper almost to midday. Its fiery parabola was limned against the sky toward the east. It hissed as it went, and Daisy screamed.

"Take me down," she cried vehemently, "you—you mental arithmetic!"

Dahster got her to the elevator, and inside of it. She was wild-eyed, and she shuddered when the express made its debilitating drop.

Outside the revolving door of the skyscraper the philosopher lost her. She vanished; and he stood, bewildered, without figures or statistics to aid him.

Joe had a lull in trade, and by squirming among his stock succeeded in lighting a cigarette and getting one cold foot against the attenuated stove.

The door was hurst open, and Daisy, laughing, crying, scattering fruit and candies, tumbled into his arms.

"Oh, Joe, I've been up on the skyscraper. Ain't it cozy and warm and homelike in here! I'm ready for you, Joe, whenever you want me."

## The Motor Boat In Canada

IT IS THE FORERUNNER OF RAILWAYS AND CIVILIZATION IN THE OPENING UP OF NEW DISTRICTS OF THE GREAT DOMINION

By H. Mortimer Batten

Viewed in the broadest sense the motor boat is a nation builder. Particularly is this true in a country such as Canada, which relies so largely upon her waterways as a means of transportation. In this Dominion the motor boat is playing no small part in the great work of development which is being prosecuted. In the opening up of new country it has proved the forerunner of railways and civilization. All Canada, then, should hail the motor boat, particularly in the summer season, when it is nearly any resort district one may hear on a still evening the familiar "clug-clug" of a gasoline launch wending its way through the lakes.

SINCE the days when Jacques Cartier explored "the countries of Canada and Hochelaga, which form the end of Asia towards the west," Canada has been known as the home of the canoe, but to-day it might almost as adequately be termed the home of the gasoline boat.

Not for a great many years has an invention been greeted by Canadians with so much enthusiasm as the new power craft. It is difficult for the city man to conceive to what extent Canada relies upon her waterways as a means of transport, but without them the progress of the Dominion would be slow indeed. When the spring comes, and the ice goes from the lakes and rivers, navigation begins. Steamers of all sorts and sizes start to plough the inland seas, and a score of great industries which have remained practically dormant throughout the winter, again leap into activity.

Picture a region many thousands of miles in extent, timbered with forests so dark and dense as to defy penetration. The unending chaos of spruce

and cedar is severed by great ravines, and here and there one comes upon a string of lakes or a wide waterway. Along its margin, many miles apart, are dotted settlements, and the inhabitants of these outposts of civilization are solely reliant upon the water for transportation.

The steamers, of course, navigate the larger lakes and rivers, but as anyone who has traveled by them knows, the service is often slow and unreliable, and the charges abominably high; while the smaller lakes and rivers are only navigable to smaller craft.

Before the appearance of the gasoline boat, steam launches were used by many of the outlying settlements and lumber camps, but to-day there are few steamboats left. Not only were they expensive and cumbersome, but in comparison with the gasoline boat they were altogether unsuited for the work required of them.

Very often it happens that a boat has to be carried a great distance by railway, and finally portaged by instal-



nents over many miles of the appalling woodland trails before reaching its destination. This is a tedious and expensive business, and as the outlying camps constantly move their quarters, they long felt the need of a compact and powerful launch.

The motor boat has filled a great vacancy, and is now an important factor in the opening up of fresh country. Let us take, for example, New Ontario, with its vast mineral wealth and growing population. Here the T. & N. O. Railway thrusts its single span of metals far into the heart of the interminable forests, where a few years ago the white man was a creature almost unknown. It stops at length at Cobalt, and Cobalt and its adjoining settlements together resemble a giant octopus, their many tentacles of civilization spreading out in all directions through the woods. They are the centre of a vast network of lakes and rivers, along the banks of which tiny settlements pulsing with life, have sprung into existence. Men come and go from them daily. Millionaire speculators, anxious to "see the show," or to invest in town lots; commercial travelers and many other business men, each of them doing something towards the advancement of the new settlements, step off the railway at Cobalt or Haileybury, and are conveyed swiftly and comfortably into the woods by the all efficient motor boat.

Leaving Haileybury behind the railway thumps and rocks its way northward and westward till it arrives at last at Porcupine, the Klondyke of the present century. Stepping from the station platform one sees, two miles across the lake, the white buildings of Golden City, with its Banks and Hotels and Recorder's Office. To the left, also bordering the lake, Potosi seems to be a city to itself, so closely do the woods hide it in their shadows.

Between the three cities, however, a ceaseless stream of traffic passes to and fro across the lake. Racy motor boats, brown and white and green, flash in the sunshine, and with roering exhausts

ply between the landing stages. There are four or five on the lake at the same time, yet each is fully loaded, and at the stages four or five more are filling rapidly. The owners of these boats have cut their fares to exactly one-fifth of what they were a year ago, yet they are still making good profits.

Not very far from Porcupine City, flowing in a south-easterly direction, extends the Mattagami River. It is believed by many that the gold "break," located at Porcupine, runs across Canada for over three thousand miles, terminating at length in the Klondyke. Be that as it may, prospectors are still heading in that direction for the settlement, and gold rushes are constantly taking place. All along the Mattagami River, "prospects" are at work, and the gasoline boat is playing no small part in opening up this new country.

Almost every mine and "prospect" along the lakes and rivers possesses its own boat, which carries mail, provisions, machinery and horseflesh. It is really surprising what loads these boats will take through the rapid waters. It is no uncommon sight to see a twenty-foot launch pushing or towing four heavily loaded scows against the powerful current at a good six knots an hour.

And what can be said in favor of the gasoline boat for Ontario can be said also for all well watered portions of Canada and British Columbia. Think what cheap and rapid transportation must mean to a growing settlement, clinging avidly to the outside world only by the slender nerve of the telegraph wire!

The gasoline boat is to-day the forerunner of the railway—the forerunner of civilization. Penetrating far into the lakes it is opening up new country, and when once settlement begins the railways, when possible, are not slow in bringing up the rear.

Often, when in the heart of the woods, where one little expects to meet white companions, one is surprised to hear on the still of the evening the far off "chug-chug" of a gasoline boat

wending its way through the lakes.

There is scarcely a hotel in the lake districts that nowadays does not possess its own launch, and to the sportsman their services are invaluable. To the prospector, too, they are a great help, for lathering his canoe to the gunwale he can ride up stream in comfort till the rapids are reached, and not only save many miles of tiresome paddling, but accomplish his journey in much shorter time than if he were reliant solely on his canoe.

The popularity of the gasoline boat has, of course, opened up a new line of employment for many hundreds of youths in Canada. Good motor mechanics are at a premium, and the wages paid at the outlying camps are surprisingly high. The figure varies accordingly from \$2 to \$4 a day, everything found, and on passenger work the driver is sometimes allowed commission, which generally increases his salary. There are, however, a great many impostors in the business, with the result that motor boat owners are often extremely wary whom they employ. References, therefore, are sometimes useful, though the youth who has once acquired a good reputation—who, at all costs, can keep a boat running, is sure of fair pay and regular employment during the summer months.

The man who is first into a new country with his boat is almost certain to make immense profits. An old prospector, with whom the writer is acquainted, seriously injured himself in the spring of last year, and was unable to carry on his strenuous employment. Having about five hundred dollars at his disposal he invested, at the advice of his friends, in a small gasoline boat, and had it conveyed to the river by which his forest-marooned shanty stood. He has now abandoned prospecting for good, and taken to the passenger boat business. He employs four hands, and is the proud owner of three fast and powerful launches. His first craft paid for itself in less than a month, and dur-

ing the height of the season he cleared no less than from thirty-five to fifty dollars daily.

Similar success favored many others, among them being a half breed ferryman who lived in the backwoods of British Columbia. He possessed a small rowing boat, and earned his living by conveying pedestrians across the river by which his shanty stood. He charged ten cents per passenger, and one day it occurred to him that if he could only convey them nine miles up stream it would save them many hours of tedious tramping.

Forthwith, he invested in a six horse power gasoline engine, and converted his old boat into a power boat. His surprising success fired others with enthusiasm, and to-day there are no less than nine boats running on the same route. The halfbreed, however, retains possession of the central landing stage, and he, himself, remains comfortably at home hunting up passengers, while his man runs the new launch.

Last year a great many accidents occurred, and several lives were lost through gasoline boats taking fire or foundering in mid water. Accordingly a law was introduced enforcing owners of motor launches to equip their crafts with efficient life-saving apparatus. But in spite of this precaution many accidents occurred, and on Porcupine Lake, late in the summer, the writer witnessed a heartrending tragedy.

A youth, in charge of a very fast boat, was towing a heavily loaded scow from the Golden City landing stage, and had taken his seat at the extreme end of the boat in order to keep the propeller well under water. Scurried he had gone fifty yards when the towline broke with a loud report, and the boat, relieved of her load, at once shot forward. The driver lost his balance and fell backwards into the water, much to the amusement of the crowd of onlookers by the landing stage.

But before anyone could grasp what was happening, the powerful boat, now

unoccupied, had performed a complete circle, and was racing down upon the helpless swimmer. The unfortunate youth was literally cut in two, before the very eyes of his laughing, jesting comrades.

A day or two after this sad happening, my partner and I were involved in an amusing though somewhat exasperating mishap. It occurred on the same lake, and curiously enough, the same boat, the "Wizard," played an active part.

We were hitting out for the woods, and had several days' provisions with us, which we loaded into the small launch which was to convey us across the lake. The boat contained several Dagoes as well as ourselves, and as we left the landing stage, the "Wizard" bumped us somewhat violently. Nothing was thought of it, however, till we reached the middle of the lake, when suddenly a fountain of water was observed spurting upwards through the floorboards.

The driver at once headed for the nearest shore, almost a mile distant, but ere we had reached it the boat half filled

with water, and the engine stopped suddenly.

The Italians at once leapt on to the seats, and started shouting and waving their arms in a frenzy of excitement. We were sinking rapidly, and in imminent danger of capsizing, but the more obvious the peril became the more excited became the Dagoes.

At length we saw the "Wizard" racing rapidly towards us, but evidently the driver misjudged the distance, for he bumped us so violently that one of the Dagoes was dislodged and fell into the water. My companion swore he could hear the fellow's screams till he was two feet below surface.

We gained the "Wizard" just as our own boat sank, and looking round saw our parkies and provisions, sailing peacefully on the water.

It seemed that, on that trip, we were in for an excessive run of bad luck, for on our return journey via the Matagami River the "Lily of the Wilderness" severed her propeller shaft, and all one long, chilly night we huddled in her bows while the tide carried us homewards.

## Jackson's Scoop

By W. A. E. Moyer

JACKSON, the "policeman" on the *Daily News*, was quite well aware that his paper was fighting the police. He had been made painfully cognizant of the fact on numerous occasions, when sundry stories in the course of the night's news went wide of him, which he would have got had his paper and the heads of the blue-coated minions been on visiting terms.

Not that the enmity had extended to Jackson, himself, particularly. The police chief, the captains, the chief of detectives, were all on friendly enough terms with him, but nevertheless it was quite apparent that Jackson was a marked man at police headquarters. They may have thought a lot of Jackson, but they did not admire his paper's attitude towards the police. The justice of *The News'* position is another story.

Jackson, whose duty, in line with other reporters, was to be "next" to everything of importance that went on at police headquarters, and to be especially alert just before press time—a period at which most other people are deeply immersed in the condition which, hours later, induces a reflection on the problem of what material constitutes dreams—found being a late duty police reporter on a paper which had its knives out for the police, no downhill job. Frequently he was wont to groan in anguish of spirits and in accents more emphatic, too, when a feverish run through the rival sheets apprised him that he had been scooped again—benten out on small items which he should have got, and which he didn't see how he could have missed; just the little things that are as iron entering into the soul of the trained newspaper man—spree-inspiring and suicide

provoking. For, if there is one class of humanity more than another which suffers from the attacks of the little blue devils it is the newspaper fraternity. Such small causes bring them on, too.

Atkins, the city editor, who had gone up to the desk from cubism, and knew all about it, sympathized with Jackson. He had been through the mill himself. But his sympathy didn't help Jackson much, particularly in view of periodic cyclonic visits of the "Old Man" to the local room, to the accompaniment of short, sharp queries hurled in the city editor's direction, as to why certain news stories relating to arrests, burglaries and such like, had not been favored with a position in the columns of *The News*—also as to who was looking after the police, anyway? After which, hasty exit of the "Old Man" and a subdued and mournful atmosphere settling thickly over the local room.

Jackson's state of mind, if he happened to be among those present upon the occasions mentioned, was hardly likely to be improved. He knew it wasn't his fault, yet at the same time he was tacitly aware of the fact that some of the blame came his way.

The Boss—otherwise the Old Man—otherwise the editor-in-chief—was a newspaper man in theory, not in actual practice. It was very seldom that he noticed when anything was missed by the paper, but when he did, there was usually this kind of petty Dickens to pay. This was the subject of common and indignant remark in the local room. It was the more galling to editors and reporters alike, by reason of the fact that the big kicks of the "Old Man" were usually directed at things

## Tagged With Other People's Estimates Of Us

Do you ever realize that people who know you are constantly sizing you up, that when you meet them you really step upon the scale of their judgment and are weighed and measured by them on some sort of an imaginary scale? For example, people who know you may estimate your industry as a hundred, but your rough unsmooth manner ten or fifteen. They may estimate your ambition eighty but your real judgment at twenty-five. Your intentions may be well up the scale while your courage very near the bottom. If we could only get into the habit of taking an account of stock of ourselves, of estimating ourselves as other people estimate us, we might very materially raise our lowest marks, which indicate our weakness.

which didn't really matter anyway. When there was a real beat, and no excuse to offer, it invariably went unnoticed. It depended on the editor-in-chief's state of mind. At the same time the guilty ones trembled visibly for days after, whenever the door opened suddenly or a strange stop sounded. But the news and city editors made up for the Old Man's neglect in this respect. They were old, time-tried newspaper men, and knew when to raise a row—and how. Nothing quite equals the gloom which settles over the local room of a newspaper office just after a big beat by its hated, but respected rival.

\* \* \*

Jackson was sitting morosely kicking his heels together on a desk in the chief detective's outer office. He was feeling blue. That morning he had "got it" again, and to make matters worse for his peace of mind he had, after liberal reflection, arrived at the nonsensical conclusion that perhaps, after all, he might have saved himself had he been wide awake—a conclusion not likely to elevate his spirits very much.

And then, to cap the climax, he could feel instinctively that there was something in the air—something "doing"—something big. Yet he could not get even the faintest inkling of what was going on. He was as sure of it as that he was sitting there on that desk. His newspaper instinct told him so irresistibly—every surrounding shouted the fact to him. If he had had nothing else to go by, the conscious looks of the other newspaper boys would have given away the secret just as plainly as words could tell. Their pretenses of languidness—forced carelessness—began to annoy Jackson. He knew the sign—knew they were only waiting for him to clear out, so that they could give him the slip and get away on the grand sensation reserved for the front pages of papers which were too discreet to ruffle the feelings of a righteous police head.

Jackson's peace of mind would not have been improved had he been pri-

vilaged to overhear a little conversation in the chief of detective's inner sanctum a few minutes before he came in. It was between the chief and several of the other police reporters, and the chief in cautious tones was detailing something like this:

"Now, look a-heck, you fellows, this thing is coming off to-night. We're going to pull it off around midnight, but I've reasons for wanting you to hold it for your afternoon editions. You needn't ask me why, because I won't tell you, but I'm mighty particular about this, and I'll just tell you this: The man who gives it away and doesn't do what I say will pay for it. D'ye understand?"

The chief glared so menacingly at the group of reporters that some of them actually shuddered.

"I suppose you'll be wondering why I put you next, now," he went on. "Well, it's a big thing, and I want you there—that's all. I want the police to get the full benefit so's to show people we're attending to business. We've been getting some hard knocks. Now, another thing: I guess *The News* will have Jackson on here to-night the same as usual. Mind, not a word to that guy—not a word, I tell you, to him or anybody else on the paper. We're going to show *The News* bunch they can't monkey with the police just as they like. You can quietly tell all the other boys, but Jackson and *The News* are out, remember."

The reporters filed out in time to be carelessly bestowed about the lobby when Jackson, *The News* man, came in.

They all pitied Jackson in a way, because it's not in the nature of things for a number of newspaper reporters to combine against one, unless there is a very good reason. A reporter, if in some unusual way he gets hold of an exclusive news story, will hug his secret to his breast like grim death, but when it comes to barring a member of the fraternity from a legitimate piece of news that should be his by right of his going to the fountain head of informa-



He drew Jackson toward him and told something in a low tone.

tion for it, and the missing of which jeopardizes his position on his paper—then the spirit of the newspaper man rises up against the injustice.

Jackson's case was a peculiar one though, and the police squad saw that no good could come to them by flying in the face of determined fate impersonated in the individuality of the autocratic head of the city detective department.

"Sorry we've got to throw the poor devil down," mumbled Davis, of *The Express*, to the man nearest him.

"Guess there's no way out of it, though."

Jackson, as he was in duty bound, presently entered the chief's room. To his modest query, "Anything on, Chief?" the august individual at the desk merely vouchsafed him a casual "Nothing doing, Jackson, sorry to say"; and then pretended to be very busy with some papers.

Jackson stood tentatively at the desk a moment or two, but seeing no further overtures from the chief were in prospect, he quietly walked out, and passing through the group of press men, went down the stairs. He had made up his mind to go back to the office and confide his suspicions to the city editor. If his fears were realized it could at least be said that he had done his best by putting his paper "wise" to the situation, and the whole staff could be on the alert about the city, for anything unusual.

He was just stepping down the stone steps in front of headquarters when the stalwart figure hove into view. It proved to be Jenkins, a plainclothesman, whom Jackson knew well enough to pass the time of day.

"What," ejaculated the policeman, involuntarily, "going away so early, when there's so much on to-night?"

Jackson, dying man-like, grasped eagerly at this most tangible straw. At last he had a clue to the mystery, and he wasn't going to let it slip.

Forcefully pushing the astonished officer back into the shadow of the build-

ing fear of being seen, the reporter began breathlessly: "Now, see here, Jenkins, you're a good fellow and I've fixed you up once or twice. Of course, you deserved everything I did for you, and there may be opportunities, yet. Now, I know it's against orders, but tell me what's going on to-night. I know there's something big in the wind, but the doc. chief has elected me for the post. I'm to be thrown down."

"It's all my job's worth," began Jenkins, seeing light at once, but the reporter interrupted him.

"No, it isn't, old man. You can bet your sweet life I'll never tell who gave the thing away, and you know yourself that I shouldn't be thrown down this way."

Jenkins thought it over a moment or two. He liked Jackson; also liked the few little favors Jackson had done for him in connection with divers cases Jenkins had been on. He knew the heads of the police were dead set against *The News* man, and a high sense of justice in him rebelled against it all, well knowing as he did that Jackson, personally, had no share in the fault.

"Well, there is something on," he said finally, "and I sure don't like to see you heat, so I'll just risk my livin' and put you on."

He drew Jackson towards him and said something in a low tone, glancing apprehensively around the while.

"Mind the place, now," he added quietly, as he started away. "I know it's a sure thing, because I got it straight, though the head push are keepin' it mighty quiet. Be on hand at about half-past twelve and you'll get the whole thing."

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It is surprising how quickly one can be transported from the lowest depths of the blues to realms of perfect ecstasy. Jackson was in the deepest depths just before—now in a moment he was back into the world again: was viewing mundane things through glasses of richest hue. Every sense throbbled with excitement. He realized that now he had

something to work upon—that here was an opportunity to burnish up a reputation which had grown rather faded-looking in the office.

Atkins, the city editor was enjoying one of those lulls which occasionally come in a busy newspaper office, when the telephone on his desk changed.

"Jackson speaking," came in familiar tones from the other end of the wire. "Say, I think I'm on to something at police. I've been elected for a throw down again, but I got a tip that looks good to me. I'll follow it up anyway, and if I get a story I'll telephone in, because the thing's not to come off until 12.30."

"All right, Jackson," the city editor said. "We'll keep the front page open for you, and if it turns out to be worth while, we'll be all serene. Need any help?"

"Oh, I guess not." Jackson looked at his watch and found that it was just 11.30—an hour till the big thing was to eventuate. He had plenty of time, even though the address Jenkins had given him would take him away out into the outskirts. But he had his bicycle and could easily make the distance in half the time. He decided to take no chances, however, and getting on his bicycle started off in the direction indicated by his detective friend.

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"Guess I'd better look for the most likely place to hide," Jackson thought to himself, as he lit a cigarette. "They'll be down here soon enough if the thing turns out to be anything, and I'd better be scarce if the chief's coming. If he caught me around here, he'd put me in limbo in a jiff," he soliloquized with a chuckle.

He was turning to cross the street, having hidden his bicycle further up, when he thought he saw the flicker of a light in one of the cottage windows. Prior to that the whole place had been wrapt in somber darkness. An idea occurred to the reporter which he quickly acted upon.

"Idiot that I was, not to think of taking the lay of the land before," he muttered as he cautiously opened the gate and started up the gravel walk.

"If there's a dog around I'm in for it," he thought, suddenly. "Dear knows what I might wake up."

Passing around to the side of the house without alarming dogs or any other living thing, Jackson carefully reconnoitered. The spice of danger in it all served to electrify his nerves. He was enjoying the thing. Wespoulous, he had launched into an enterprise which might result in his death, because he had no means of knowing what kind of desperados the police were setting their net to trap.

Getting around to the back of the house, he was immediately confronted by a lighted window. The bright light inside framed a heavy green window shade, and at first glance there did not seem to be much chance of his being able to see what was going on in the kitchen. Stepping very softly, the newspaper sleuth carefully examined the window to find it there was any aperture through which he could look.

His search was rewarded at last. The blind was torn a little at one corner, and through the tear Jackson was able to command the whole interior of the kitchen with his eyes. He took in things at once rapid glance, and could scarcely restrain a cry of astonishment at what he saw.

Next moment he had something else to think about. A subdued rumble of wheels on the street caught his ear, and he had just time to make a dash for the rear fence when a heavy booted policeman bolted around the house. He was followed by another, and another, and Jackson from his none too secure hiding place, saw the cottage quickly surrounded by policemen. Surely, the raid had been well planned, for the occupants of the house had no sign that they were aware of the net thrown around them.

Presently the chief detective and a number of his men came around to the

rear. Jackson knew it was the chief by his build. The chief stepped up to the back door and knocked loudly. Sounds of commotion inside followed, and the light was out in a second.

A commotion at the front of the house was straightaway heard, followed by a couple of pistol shots, and the chief and his detectives made a dash to the assistance of the police in the front yard, each man brandishing a heavy Colt's. The fight was short, if sharp.

Jackson, throwing discretion to the winds and dashing around to the street, from the opposite sidewalk saw the police thrust their handcuffed and swearing prisoners into the patrol wagon, and then waiting for nothing farther, the reporter jumped on to his wheel and dashed up the street as if the fates were after him.

Halting his speed-ordinance-defying pace in front of a drug store, Jackson, in a remarkably short time had the office on the phone, and was pouring an amazing story into the astonished ears of the not easily surprised Atkins.

"You're quite sure of your men now, Jackson?" queried the city editor dubiously.

"Sure's I'm standing here," was the positive reply. "Couldn't be any doubt about it, because I know the old guy as well as I know you. Sits in front of me in church."

"All right, my boy, I'll put a short-hand man to work and we'll take your story over the telephone. Shoot it in as fast as you like."

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The big presses of *The News* that morning pounded out a great extra edition. Though *The News* people didn't know it at the time, the front page contained an exclusive story, as well as one of the most sensational the city had seen in years. True to the commands of the chief detective, the other press men had

held their "stuff" in the innocent supposition that the story was safe.

The whole city was shocked at the amazing intelligence which glared up at the people from the breakfast table in startling headlines on the front page of *The News*:

#### SENSATIONAL ARREST BY THE POLICE.

Two Eminent Citizens, Who Were Always Believed to be of the Highest Integrity Caught Red Handed, Making Counterfeit Bank Notes.

Amazing Story of Double Life in This City.

The double headed column underneath went on to tell in sensational language about the arrest of Silas Cramer, president of the great K—Bank, and his business associate, Judson Smilax, both eminent financiers, leaders in Wall Street, church workers and men prominent in every benevolent work, who had been caught red handed, printing counterfeit bank notes, in a little cottage on the outskirts of the city. Presses, engraving stones, the whole paraphernalia of a counterfeiting gang, had been found in the place. When the police came, they having had a tip, and had successfully carried out their plans to catch the two men at work, Cramer and Smilax had endeavored to escape and had fired on the officers, but were finally overcome, handcuffed and taken to police headquarters in the patrol wagon.

The city rang with the sensation, and Jackson not only won back his reputation, but became the idol of *The News* office. Even the "Old Man" offered his congratulations, and told Jackson it was a great piece of work.

Jackson—to himself—philosophically put it down to just "bull-headed" luck.

## A Square Deal for the Child

THERE IS SOMETHING RADICALLY WRONG WITH CANADIAN EDUCATIONAL SYSTEMS IN THEIR APPLICATION TO THE TRAINING OF DEFECTIVE CHILDREN

By Dr. Helen MacMurchy

This is a plan for a square deal for the child. The place to carry it out is in Canadian schools—the most democratic institution in the land. Our educational systems are supposed to be models, but under them every child does not possess an equal chance. The handicapped, the neglected—who need education most because they need all the help they can get if they are to be able to earn their living, and not be a burden to themselves and others—are not getting any good of the education that the State provides for every child. That family pays school taxes, and heavy taxes at that, but the very lame little girl, the very deaf boy, the child that cannot see enough to read, the child whose brain will never develop, they, who, need most, get nothing. They are not at school at all. What is the remedy? A proper system of medical inspection at schools in proper hands and well administered. In this article such a system is outlined.

THE results of medical inspection of schools vary. Results must vary where so many people are concerned, because each must act well his part to achieve the success of the whole.

Anybody can spoil medical inspection of schools. The school trustee may declare it "a fad," and refuse to have it at all. The teacher is our chief helper, but sometimes even the teacher delays to come to our aid, not knowing how much we can and will do for her and for her pupils. Sometimes the parent, with whom, above all, we wish to co-operate, has had an unfortunate experience, and solace himself for it by abusing all doctors. These are difficulties; but, as Sir James Whitney says: "Difficulties exist only to be overcome," and the trustee, the teacher and the parent, will all make common cause with

us some day if we can show good results. What results can we show?

Here is a class of boys. Even if you do think they have the blackest hands in Canada, it would be a mistake to say so. It would be a mistake to demand to examine hands on this, the first visit. They have just come in from the school-yard, and the boy who keeps his hands immaculate on the playground is likely to die young.

Were you ever twelve years old? HE was, who met the doctors in the temple, and the doctors loved the Divine Child and detained Him long. Here are some twelve-year-old boys. Speak them fair. Tell them something interesting about the school in the city or the country—something that has a gleam of fun in it. Give them notice of what you want on your next visit. Tell them a story.





The school Doctor is a friend of these. Handicapped children are taught in the St. Nicholas St. School, Boston.

Children have an insatiable appetite for good stories. Drop a tactful hint about hands, and at the first word you will see each little man sliding his hands into his pockets, or under his desk, or somewhere out of sight.

On your next visit you will see the cleanest hands in Canada, all at the price of giving them fair warning and a few kind words. That is the way you would want to be treated if you were a boy. Indeed, it is the way you want to be treated now that you are no longer a boy or girl.

The character of the person who is medical inspector of schools will powerfully affect the results for good or ill. The hiring is a hiring, and the hiring spirit would spoil the best system. You cannot provide regulations that will enable you to gather grapes of thorns or figs of thistles. "Do you expect us to chase round after these children?" asked a newly appointed medical inspector of schools. The medical inspector of schools ought to be properly paid. But the man or woman who has no special liking for children, who does not know how lovable children are, who is poor in the spirit of public service

and works on a cash basis, had better not usurp the place of the school medical officer.

It is wonderful what results come from the mere fact that there is a school doctor coming. It was found in Edinburgh that the announcement of medical inspection on such a day was sufficient to cause a marked improvement in the general appearance of the children. Clothes were changed and baths took place, and altogether the event was taken seriously. So it should be.

#### MODERN EDUCATIONAL METHODS.

It will not be amiss for the school medical officer to familiarize himself with modern educational methods. The doctor does not always know about the Phonic Method. "The Schoolmaster," London, tells a story of a small boy taken by his mother to be examined by the school medical officer, who proceeded to test the boy's sight, placing upon the wall the usual alphabetical display. "Now, Tommy," he said, pointing to F, "tell me what this letter is." The boy jerked his head forward, and made a sound resembling the first part of a locomotive. The medical officer looked



An open-air school in London, England.

very hard, but pointed to S, saying, "Now this one." The boy at once emitted a sound like the hiss of a prodigious serpent. This was too much for the doctor, who gave a look of significant inquiry at the mother. "No, sir," she cried, bursting into tears, "he's not mad. That's the way they teach 'em to read nowadays."

One result of medical inspection of schools has been to show how faulty our methods of school registration are. Our national schools should have a complete list of the names of all children of school age, in the province. This is not the case now. When doing school medical inspection the writer never stood at a school door and looked as far as the corner of the street without seeing children of school age, neglected or not, but certainly not at school. Their names are frequently not on the school register at all. The same thing was discovered by the supervisors of the Toronto Playground Association. When children came to the playground during school hours their name and addresses were always taken, and frequently these names, on being looked up, could not be found on the school register at all.

This is particularly the case with physically or mentally defective child-

ren. Serious cases of this kind do not get to school, and so the disabled, the handicapped, the neglected—who need education most because they need all the help they can get if they are to be able to earn their living, and not be a burden to themselves and others—are not getting any good of the education that the State provides for every child. That family pays school taxes, and heavy taxes at that, but the very lame little girl—the very, very deaf boy—the child that cannot see enough to read, the child whose brain will never develop, they, who need most, get nothing. They are not at school at all.

One of the results of medical inspection of schools has been to show that our Compulsory Education Act is not being carried out, that we need to have an accurate registration of all our children, and that it is often the most needy cases who are not at school. What are we going to do about it? Register the children, and the school doctor says, give every child the education that will fit him or her to earn part, or the whole, of his or her living.

#### UNDER-FEEDING AND MAL-NUTRITION.

As a rule, in Canadian cities there are three meals a day for everybody, men,

women and children. But with the coming of the slum we are getting the slum people and the slum ways. One of these is the disregard of the decencies of life. How can the decencies of life be regarded in a one-room dwelling? The recent report of a preliminary survey of some parts of Toronto, published by the medical health officer, Dr. C. J. Hastings, shows that 198 families in Toronto live in one-roomed dwellings, and 411 families live in two-roomed dwellings, and one of the "soul-destroying conditions" of a one-roomed "home," if home it can be called, is that there is no chance to do anything properly, no place to eat, to sleep, to wash, with any comfort or privacy. Even when there are two rooms, there is more often than not no table set. Meals are "picked-up" if there are any meals. Nutrition is bad.

In a school in a Canadian city one day the teacher saw that a little girl in the class had a fish, and having only

too good reason to fear that it was stolen, "Oh, Mary," she said, sadly, "what did you take that fish for?" "For dinner," replied the poor child.

The same teacher had noticed that four other children, from one family, never seemed to be able to sustain interest or attention in anything for more than a few moments. No matter how well she explained the arithmetic lesson and got them started at it, when she looked again at these four children, nothing was doing. She could not think why until one day at noon the eldest little girl was found dividing one piece of bread into four parts. What was the matter? The children were so hungry they could not study. So understood that they could not learn. There are some children like that, sometimes even in Canada. Medical inspection ought to find them. If Canadian children are hungry, something is wrong somewhere. The medical inspector and



Toronto Playground Association.

the school nurse are the very ones to begin to find out why, and we are all ready to help to prevent it, not by smuggling. Has the father no trade, or is he out of work, or is he drinking, or is he lazy, or what is the matter? Whatever it is, we want to see that, being Canadians, the children of that father have a trade and get work and don't drink, and are taught industry. For on them depends the future of Canada. And medical inspection is not wanted unless it can help to provide for the fu-

ture of Canada. And we are all ready to help to prevent it, not by smuggling. Has the father no trade, or is he out of work, or is he drinking, or is he lazy, or what is the matter? Whatever it is, we want to see that, being Canadians, the children of that father have a trade and get work and don't drink, and are taught industry. For on them depends the future of Canada. And medical inspection is not wanted unless it can help to provide for the fu-

ture of Canada. Even yet there are people living in Canada who think that consumption is hereditary. Our medical inspectors of schools should see to it that everybody in the rising generation knows better than that, and knows how we may protect ourselves and others from tuberculosis.

Even yet there are people living in Canada who think the child will "grow out of" a discharging ear—whatever that means—and the medical inspector of the school can do no better missionary work than to take a few minutes to tell the mothers about what a discharge from the ear means, how it may affect the brain and cause death, how it may permanently destroy the hearing, and how that ear may be properly cured for and cured. That may be made plain to the mother. She will see that what you say is reasonable and right, and she will do what you advise. It is worse than useless to report so many down children with discharging ears. That is not medical inspection at all. That leaves us just where we were. Anybody can see that an ear is or is not discharging.

What we want the medical inspector to do, either personally or through the school nurse, is to persuade the parents to take the child to the family physician for treatment, if they can afford it, and if they cannot, to find some other way in which the child's life and efficiency may be saved for the benefit of himself, his family and the nation.

So with the general question of cleanliness. Are Canadians conspicuous for cleanliness? That depends on you and

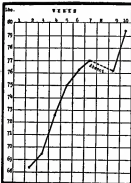


Chart I. Tendency in weight of Kathleen M., Rosell Wood Operative School. Note decrease during night work when she was absent.

This girl gained over a pound per week.

ture of Canada. There should be three meals a day for Canadian children.

#### AN EDUCATIONAL CAMPAIGN.

Perhaps one of the most important results of medical inspection of schools is its general educational influence on the community. There are even yet people living in Canada, who think that children's diseases are diseases that all children should have and "have them over!" Not at all. Take care of John

me and those whom we can influence. The school doctor and the school nurse can do more than any of us. Among new Canadians who come from almost every country under heaven the gospel of cleanliness must be preached, and the school is the best place to preach it and see it carried out. Not a few cases of pediculosis and even of vermin on the body, a dreadful condition, have been discovered already in Canadian cities where medical inspection of schools has been introduced. That should stimulate us all to see that such conditions are swept away. School baths and public baths are good. Decent housing conditions are better. Thorough social work, with effective organization to prevent misery by securing a fit and industrious citizenship is the most patriotic work for our mayors, aldermen, societies, teachers, statesmen and citizens generally. And we should do something to clean up some corner of Canada before next Dominion Day, when we sing "O Canada," with tears in our eyes.

No condition in school life or in any part of life is more important than sight. And it is incredible how many good and well-to-do parents have never thought of knowing whether John or Mary see well. They are so surprised when the school doctor finds out that they do not see well! Children do not know that the reason they cannot answer the teacher is that they cannot see the letters she is pointing to as easily as the other boys and girls do. It never strikes John that the reason Tom always shouts out the letter before he does is that Tom can see it and he cannot. John thinks Tom is smart and he is not. The teacher says so. The only way to be sure is to test thoroughly and skillfully and tactfully the sight of every child. This must either be done, or at least thoroughly supervised by the doctor. Left to someone else often it is not done. The principal is there to organize and manage the school. The teacher is there to teach. The doctor is there to see that sight, hearing and health are as

good as can be. We know of some cases where the smartest pupils learned the letters on the test card by heart and obligingly whispered them to the rest. We know of other cases where the principal assured the school doctor that there was not one case among several hundreds of pupils where the sight needed attention! Such a condition of affairs means at the best a waste of precious money and more often a life-long loss of efficiency and education, leading

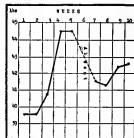


Chart II. Y-axis in weight of Arthur W., Small Wood County School. Note decrease during last week when he was absent.

This boy gained a pound a week.

to unemployment and uselessness of the children so neglected and sinned against. For the child that cannot see cannot learn, and the modern world has no place for the illiterate.

Almost as important is the question of adenoids and the ill effects which they cause. In many cases, adenoids, which cause mouth breathing and that often means mal-nutrition, mal-development, stunted growth, dull and stupid mind, may practically ruin the child's career, both at school and in after life. Give us the good school doctor to save the child from such a calamity as the permanent loss of health and growth, both mental and bodily, caused by adenoids.

The question of children's teeth is

quite as serious as any of these except perhaps that of the eyesight. It would need an article to itself, but this much may be said here, that even the little work that has been done in Halifax and Montreal, Hamilton, Toronto, Winnipeg, Vancouver and Victoria on medical inspection of schools has shown us that we have already reached a condition of affairs where all the dentists in Canada cannot overtake the immense amount of work that it would require to fill all the defective teeth in our school children! Our only hope is to prevent decay. Dirty teeth decay. Clean teeth do not decay. The use of the tooth brush will do more to prevent national physical degeneracy than the use of any other weapon whatever. The tooth brush is mightier than the sword.

The school doctor knows the answer. In conclusion we can only make a list of a few more urgent matters of health which nothing but the medical inspection of our schools offers much prospect of setting right.

Many children have headaches. Why?

School-room air is often bad. Why? Some children are pale and anaemic.

Why?

The school-room is not well lighted. Why?

The print in the text books is not good. Why?

The school sanitary conveniences are doubtful. Why?

Some children are below the average in height and weight. Why?

The desks are not made to fit the children. Why?

Some children have "growing pains." Why?

The school room is not very clean. Why?

Some children have a slight limp or

have one shoulder higher than the other. Why?

Some schools have small playgrounds. Why?

We need open air schools. Why?

Among other results already coming from medical inspection of schools should be mentioned the establishment of special schools and special classes for mentally or physically defective children. Thus the school doctor helps in the classification of the pupils. "She is a very stupid girl," said a principal one day. "I don't think I ever saw a stupid girl. I kept her in myself one night to learn some spelling she had missed and I thought she never would learn it. I was tired out with her." "I am sure you were," said the school doctor. "The girl is defective mentally, and cannot learn like other children. It is not stupidity, but inability." There is no help for that girl but recognizing the true condition, teaching her what she can learn to do well, some industrial work, and giving her the permanent care, which is the only successful and economical way to provide for the feeble-minded. The school doctor can tell us that in an ordinary class she is a hopeless misfit. It is not her fault.

In short, there is no great problem of public health and national welfare which the medical inspection of schools, in competent hands, and well-administered, cannot help to solve.

Is successful administration depends upon three things:

1. Selection of the very best persons as school medical officers.

2. The effective co-ordination of medical inspection of schools with other branches of the educational system and the public health service.

3. The discovery of defects among our school population, and the removing or curing of these.

## In the Admiral's Cabin

By Robert J. Pearsall

WE were gathered in the relief shack at Okongapo, waiting for our turn to go on guard. Some of us were standing, some sitting, some sprawled out on our canvas field-cots. Outside, the driving, fever-smelling rain of the Philippines was falling. The Old Timer was talking, while we recruits listened with mouths agape.

"So, instead of coming straight home from Peking, as we expected, we were shifted—a hundred of us—onto the *Rainbow* at Yuku. And we went from Yuku to Yokohama, and then doubled back to Kobe, and through the Inland Sea to Nagasaki, and then from Nagasaki we started across to Shanghai. And it was then that it happened.

"A few hours out of Nagasaki we met the *Linnie* float going at full speed ('*Linnie*' means English, you rookie!) We wiggled back and forth a bit as we passed, and directly afterward I saw that we changed our course. I didn't savvy the reason for it, and neither did anybody else forward, but late the next afternoon we were cruising slow along the coast of what I took for Quelpart Island, well off the coast of Korea.

"About four bells we made out a ship lying in an awful peculiar attitude, dead ahead. And then a little later we saw, first, that she was tilted up forward with her after-part sunk down, like she was trying to climb a tree, which meant that she was on the rocks, next that she was a warship, and finally that she was a Britisher. Which satisfied me, for we had some ex-Linies on board that were always talking about their crack seamanship. (An English ship is smart, though, you can't deny.)

"Well, after we'd have to go as close alongside of her as we dared to get, and

dropped anchor, our skipper issued a bulletin that wised us up a bit. She was the *New Bedford*, the British flagship, and she'd run on the reef early that morning while they were having speed tests in a slight fog. (A funny time to have speed tests, I thought.) They'd got everybody off safe and had removed all valuables and taken the breech-blocks out of the guns and abandoned her.

"Our cutter was lowered, and our officers went on board in a body to investigate the wreck: and when they came back they, and the seamen who had towed them over, too, were loaded down with conveniences and bric-a-brac, and fine plate with 'H.B.M.' stamped on it, and rich lace, and so on and so forth. It was all right enough: they might as well have it as the Koreans, who wouldn't know what to do with it, any way; but it gave us fellows as didn't have a chance at it a hungry feeling.

"Now, we naturally expected to up-anchor immediate; but just as we were standing by the wireless began to sputter, and shortly a new bulletin was posted. It said that Shanghai had reported that a typhoon had passed that port some miles out at sea, headed north, right along our course, and that consequently we would lay where we were until morning. A typhoon is a tricky animal, and the *Rainbow* is an old craft and we weren't taking any chances.

"No sooner had that bulletin been posted than ideas began to chase themselves around in my head. So I called Hicky Jones' who'd been my bunkie at Peking, and divulged them to him.

"'Besides,' I said, after other arguments, 'they tell me that when they boarded her this afternoon the admiral's

all's cabin was flooded, 'cosm of it being high tide. And they tell me farther that at time of the wreck the admiral wasn't on board, being on another ship. Now, it'll be low tide to-night, and things might have been overlooked.'

"He agreed, and we separated until about six bells that night, when we met forward of the breakwater, on the forecastle. He was dressed in regulation under-drawers, and so was I, and we slid down the anchor-chain into the water without making hardly a ripple, and struck off for the *New Bedford*.

"It was a half-mile swim, about, and we were both pretty well tired when we got there. Then we cruised around quite a while before we managed to make a boarding, but we finally found a dangling rope and scrambled up the side.

"We made the upper deck and started aft, looking for the officers' quarters. We found the aft gangway, went below, struck one of the matches Hicky had carried in a watertight case, and looked around.

"Believe me, it does make a man feel funny to walk through the fuzzy staterooms and feel the soft rugs under his feet, and see the white beds the officers sleep in, while the men huddle together forward! And real bath-tubs on board a man-of-war! But I hadn't ought to be saying this, and, besides, it's nothing to do with the story.

"Well, we tried the electric lights, but of course they wouldn't go; and we finally found a candle. Then we ramaged around for quite a while. We found plenty we'd like to have, but nothing we could carry with us, until we struck what we supposed was the admiral's cabin.

"It was bigger than the rest, that was our only reason for thinking so, and the fact that everything was moved out. I suppose the admiral had given orders to that effect. Any way, nothing was left, except, over in one corner, an old bureau.

"We went over to it, wondering why it hadn't been taken. We found out

when Hicky, who had a habit of leaving things, took hold of it and tried to lift it. It was fastened to the floor. They probably hadn't had time to get it loose.

"The drawers were cleaned out, though, and we were just turning away from it when a crack between the upper and lower drawer caught my eye. I looked at it, and then yelled to Hicky to come back. For there was the outline of a little drawer that was evidently intended to be kept secret, for there wasn't any handle, nor anything to mark it. But the soaking in salt water it had got had sprung the wood and showed it up.

"I tried to pry it open with a table knife which we borrowed from the wardroom, but there was nothing doing. So we had to go on top side and get a fire-axe. That turned the trick, after a deal of hammering.

"Hicky pulled it open. Inside the drawer was a little black box; and inside the little black box was—

"'Great Jehosaphat!' cries Hicky, his eyes near starting out of his head. 'We're rich, Tom, we're rich!'

"'Whoopee!' I yelled, making a grab for the place my hat ought to be, to throw it into the air. 'Jumppin' Calithumpians! Rich! A home in Newport and a house in New York, steam yachts and automobiles and aeroplanes, man-servants and maid-servants, sea voyages and mountain climbing, hot birds and cold bottles—'

"For there, lying before us, was the finest collection of jewels you ever saw. Diamonds and rubies and emeralds and pearls and—but mostly diamonds. The candle light set them sparkling so it fair dazzled us.

"We quieted down at last, and started in to fingering and estimating their value. And then, just as we'd settled on dividing them and trying them up so we could carry them—

"'Biff!' Something landed on my back like a monkey. I whirled just in time to catch another monkey-like creature in the solar plexus and put

him down and out. But the cabin was half full of them, and the key was being rushed, too, and all of a sudden the candle was knocked to the floor and put out, and then it was a fight ... the dark, with the Lord knows how many native Koreans.

"Now, the Korean has the same idea of fighting as any other Chinaman, and that is to grab somewhere and hold on like grim death. When they're fighting with each other they naturally grab each other's pigtail and then it's a pulling match for fate; but with a white man they just attack themselves promiscuously, which makes them easy to handle singly, but troublesome when they come in bunches, which they mostly do.

"I guess there was about ten holding onto various parts of my anatomy when they finally got me down, and when I commenced getting a bunch of healthy kicks from the flat of a bare foot I knew that Hicky was down, too.

"Let up, Hicky," I gasped. "It's me you're kicking."

"They got you, too, Tom?" he wheezed. "Well, I guess it's all off, then."

"We quit fighting and lay quiet, while the Koreans squatted over us and on us, in various attitudes, and jabbered to each other, trying to settle, I suppose, what to do with us.

"At last they began to disengage themselves, gradual, from my frame, and just as I was meditating making another fight for it, I felt a rope trussed around my feet. Then my hands were twisted behind my back, and my wrists were tied. I was turned on my face, and ropes were passed around my waist and chest and nailed to the deck. Two hammers were going, so Hicky was probably being treated in the same way.

"After they'd tried the ropes again, to see that they were safe, they left. I tried to twist around on my side, but I could only move my head and shoulders. I strained at the ropes around my hands and feet, but they were hard and

fast. Then—well, then I laughed, for Hicky had begun to speak.

"Hicky was what you might call a linguist. In essence, I mean. He had been in pretty nearly every country in the world, and had learned the cuss words of all of 'em. And if there was one he didn't use that night I'd never heard it myself, and that's saying a lot.

"What's the matter, Hicky?" I asked, after I'd listened awhile.

"That started him off again, and I had another laugh. And then I thought something that stopped my laughing as if I'd been choked.

"Hicky," I asked, "when does the tide turn?"

"For just a second or two, until my words had time to sink in, Hicky's flow of language kept up. Then it chopped off short. For about half a minute there was no sound but the gurgling of water somewhere.

"Lord, Tom, I never thought of that."

"Neither did I, Hicky, until just now."

"It has just about started to come up now, hasn't it?"

"Yes, I think so."

"And this cabin was flooded when they came on board to-day."

"So they said. All of the lower compartments aft."

"Then it'll be flooded again in a few hours?"

"I suppose so."

"And we'll be—drowned?"

"That's all I can see."

"Hicky didn't say anything more, and neither did I. All the noise there was was that gurgling of water. It was all imagination, of course, but I swear it sounded like the roaring of Niagara.

"More to drown the thoughts of it than anything else, I began to twist around in my ropes again. But they couldn't have been any tighter or more secure if they'd been tied by an able seaman. I could hear Hicky doing the same thing, and he grunted as he twisted. But he'd left off swearing.

"After about ten minutes of this there came the sound I'd been dreading. It was a trickle of water close at hand. Hicky heard it, too, for he stopped as if he'd been shot.

"It's coming, Tom," he said.

"Yes," I answered. And I was thankful for one thing: that I didn't have a coward or hysterical fool to die with. Hicky would die game; he might choke and sputter a little at the end, but that would be all.

"The trickling was getting louder; from the sound of it, it was coming through the open bulkhead that led into the cabin. I was so busy listening to it that I didn't notice anything else, until all of a sudden I came alive to the fact that my left foot was lying in a pool of water. And then I knew that it wasn't going to last long.

"The vessel was tilted sideways-like, as well as fore and aft, so that was the way it came, creeping from our feet up. And by the time it reached midway around my waist I began to wish we'd been turned the other way round. For the slow move of it, every minute just a little higher—I tell you it was enough to get the nerve of the bravest man living.

"I wanted to do something, to say something, to hear something, to feel something—anything besides to lay there and feel that slow rise of water. But I set my teeth grimly; as long as Hicky could stand it, I would, without a whimper.

"It was just under the front of my shoulders now. In about ten minutes, as well as I could calculate time, it would be up to my face. I had a little freedom of motion there; I could throw my head back and so stare it off for a few minutes; but I made up my mind that, if it were possible, I'd hold my face to the deck. The sooner 'twas over, the better.

"But it was hard waiting. I wanted to yell, to curse, to pray. I misbehaved but what I would in another minute. My nerve was going fast.

"All of a sudden there was a jar, no, a sort of a lurch, of the deck under us. And while we were wondering what it was, the lower part of it rose and the deck suddenly came level.

"I thought that was the end, for of course the water spread itself equally all over the deck. I forgot my resolve to die quiet and heaved my head as high out of water as I could, and choked and struggled.

"It was lucky I did, for in another minute I felt the water going down, and in another we were lying high and dry.

"In the name of all the little fishes," says Hicky, "what was that?"

"And I asked the same question simultaneously.

"Naturally, neither of us had a reply ready. But my thoughts kept revolving themselves, and all of a sudden the answer came to me. 'Hicky,' I says, 'I bet this deck has 'Overboard in action' tagged on it somewhere.'

"Overboard in action! What—Oh, by George, you're right! I've read it somewhere, read that most English ships have their wooden decks laid in loose, so they can be heaved overboard in case of battle. Liable to cause fire or splinters or something, you know. And this is one of 'em. And it's floating.'

"But the one above us isn't wood. It's steel, I noticed it while the candle was lit. And what's going to happen to us when this one rises so high that the two of 'em come together?"

"Oh, the water may not rise that high," says Hicky. "And any way, that's a long time off. Let's take it as easy as possible until we get there."

"And, if you'll believe me, that's what we did. We lay there and chewed the rag with each other as though we'd been lying in our bunks. Only, I couldn't help wondering all the time how much clear space there was above us, and working my hands as far up as I could, half expecting to feel the upper deck.

"We lay that way for hours—it seemed for days. But I knew that when daylight came we'd know it, if we lived that long for there must be a ventilator over us. And, naturally, it would open on the top side.

"It came at last, slowly, while we kept twisting our heads around and trying to look up. At last it got light enough, and I got my head around far enough, so I could see the upper deck. It was about three feet above us. And by watching the side I could see that we were rising steady.

"I could see one other thing: that where the bureau had been there was nothing but a hole in the deck. It must have been built in the side; it was not intended to be 'overboard in action.' And no wonder, with all those jewels in it!

"And then, as it grew lighter, I saw our chance.

"The deck above us was held up by big steel girders. They tapered down almost to an edge, like the ones on our own ships. And one ran directly above Hicky, and lengthwise of him.

"I kept still. There was no use rousing his hopes until I knew there was a chance. But I couldn't keep my eyes off that girder. And Hicky saw me with my head always twisted in the same way, and then he saw it, too. We both watched it like cats, neither of us saying a word.

"It came closer, closer. It was two feet above Hicky's bound hands, now a foot, now six inches. And I twisted my head and watched it.

"Then it touched the ropes that bound his hands. And I opened my mouth for the first time since I'd seen it. 'Now, Hicky, now!' I yelled.

"And Hicky sawed! He strained himself upward and began rubbing the ropes against the girder. At first it was hard to press against it enough to do any good, but as the water raised, of course, it brought him closer to it.

"I turned my eyes away; I swear I was afraid to look. But I could hear Hicky breathing hard and groaning

new and then. And then, as we rose higher, I raised my own hands until they touched the deck above, and tried to hold down. Of course, it did some good, but I could feel myself rising in spite of all I could do.

"Then the snap of the rope against the girder suddenly stopped, and Hicky's breathing seemed to stop too. I groaned; had he given up? And then I heard a snap, and I knew it was the rope, and that his hands were free.

"When a man's life depends on it, believe me, he can work fast. Inside of half a minute Hicky had loosened the other ropes that bound him and wriggled free.

"Many a man at that would have made a break for the ventilator. It was no sure thing, or even probable, that if he stopped to get me loose he'd be able to get out himself, for the water was rising fast. But he crawled over to me, not even stopping to untie the ropes around his legs.

"It took him some time to set me free. When he did, the deck that we lay on was almost up to the lower edge of the girders. It was all we could do to force it down again, so we could crawl through between the two, and when we did the water came in and like to have strangled us. But we got to the ventilator at last.

"We crawled up through it, and fell over the side of it, and lay on the top side, in God's good air and sunlight, and laughed and laughed. Crazy? Well, I guess so.

"We were still laughing when the longboat came from the *Rainbow* and took us off. They'd missed us at quarters, and surmised where we'd gone.

"The jewels? The Koreans got 'em, of course. That was what made 'em jump us in the first place, I suppose. Any way, Hicky and I never went back to see. We couldn't. The old man gave us five days for jumping ship, and when we got out of the brig we were in Shanghai."

## Dr. Marden's Inspirational Talks

L—SELF FAITH, THE MIRACLE WORKER II—THE SCIENTIFIC TOY THAT MADE ITS MAKER A MULTIMILLIONAIRE

By Dr. Orison Swett Marden

These two articles are typical of Dr. Marden's inspirational writings. They are but a month's contribution to a series of articles of this character which Dr. Marden is preparing for MacLean's Magazine, which is the only monthly publication in the world to which he is under contract to contribute regularly each month. This series constitutes one of the best features now running in any magazine.

### L—Self Faith, the Miracle Worker

NO MAN gets very far in the world or expresses great power until self-faith is born in him; until he catches a glimpse of his higher, nobler self; until he realizes that his ambition, his aspiration, are proofs of his ability to reach the ideal which hunts him.

Perhaps there is no other one thing which keeps so many people back as their low estimate of themselves. They are more handicapped by their limiting thought, by their foolish convictions of inefficiency, than by almost anything else, for there is no power in the universe that can help a man do a thing when he thinks he cannot do it. Self-faith must lead the way. You cannot go beyond the limits you set for yourself.

"According to your faith be unto you." Our faith is a very good measure of what we get out of life. The man of weak faith gets little; the man of mighty faith gets much.

Self-faith has been the miracle-worker of the ages. It has enabled the inventor and the discoverer to go on and on amidst troubles and trials which otherwise would have utterly disheartened them. It has held innumerable

heroes to their tasks until the glorious deeds were accomplished.

Count that man an enemy who shakes your faith in yourself, in your ability to do the thing you have set your heart upon doing, for when your confidence is gone, your power is gone. Your achievement will never rise higher than your self-faith.

The miracles of civilization have been performed by men and women of great self-confidence, who had unwavering faith in their power to accomplish the tasks they understood. The race would have been centuries behind what it is to-day had it not been for their grit, their determination, their persistence in finding and making real the thing they believed in and which the world often denounced as chimerical or impossible.

An unwavering belief in oneself destroys the greatest enemies of achievement—fear, doubt, and vacillation. It removes the thousand and one obstacles which impede the progress of the weak and irresolute. Faith in one's mission—in the conviction that the Creator has given us power to realize our life call, as it is written in our blood and stamped on our brain cells—is the secret of all power.

"Trust thyself; every heart vibrates to that iron string."

I know people who have been hunting for months for a situation, because they go into an office with a confession of weakness in their very manner; they show their lack of self-confidence. Their prophecy of failure is in their faces, in their bearing. They surrender before the battle begins. They are living witnesses against themselves.

If you expect to get a position, you must go into an office with the air of a conqueror; you must fling out confidence from yourself before you can convince an employer that you are the man he is looking for. You must show by your very presence that you are a man of force, a man who can do things with vigor, cheerfulness and enthusiasm.

Self-confidence marshals all one's faculties and twists their united strength into one mighty achievement cable. It carries conviction. It makes other people believe in us.

"If we choose to be no more than clods of clay," says Marie Corelli, "then we shall be used as clods of clay for heavier feet to tread on."

The persistent thought that you are not as good as others, that you are a weak, ineffective being, will lower your whole standard of life and paralyze your ability.

You can never reach nobility by holding the thought of inferiority—the thought that you are not as good as other people; that you are not as able; that you cannot do this; that you cannot do that. "Can't" philosophy never does anything but tear down; it never builds up. If you want to amount to anything in the world, you must hold up your head. Say to yourself continually: "I am no beggar. I am no pauper. I am not a failure. I am a prince. I am a king. Success is my birthright, and nobody shall deprive me of it."

If you doubt your ability to do what you set out to do; if you think that others are better fitted to do it than you; if you fear to let yourself out and take chances; if you lack boldness; if

you have a timid, shrinking nature; if the negative preponderates in your vocabulary; if you think that you lack positiveness, initiative, aggressiveness, ability; you can never win anything very great until you change your whole mental attitude and learn to have great faith in yourself. Fear, doubt, and timidity must be turned out of your mind.

Every child should be taught to expect success, and to believe that he was born to achieve, as the acorn is destined to become an oak.

A physical trainer in one of our girl's colleges says that his first step is to establish the girls in self-confidence; to lead them to think only of the ends to be attained and not of the means. He shows them that the greater power lies behind the muscles, in the mind, and points to the fact so frequently demonstrated, that a person in a supreme crisis, as in a fire or other catastrophe, can exert strength out of all proportion to his muscle. He thus helps them to get rid of fear and timidity, the greatest handicaps to achievement.

I have interviewed many timid people as to why they let opportunities pass by them that were easily seized by others with much less ability, and the answer was invariably a confession like the following: "I have no courage," said one; "I lack confidence in myself," said another; "I shrink from trying for fear I shall make a mistake and have the mortification of being turned down," said a third; "It would look so cheeky for me to have the nerve to put myself forward," said a fourth; "Oh, I do not think it would be right to seek a place so far above me," said another, "I think I ought to wait until the place seeks me, or I am better prepared." So they run through the whole gamut of self-distrust. This shrinking, this timidity or self-effacement, often proves a worse enemy to success than actual incompetence. Take the lantern in the hand, and you will always have light enough for your next step, no matter how dark, for the light will move along

with you. Do not try to see a long way ahead. "One step enough for me."

The reason why so many men fail is because they do not commit themselves with a determination to win at any cost. They do not have that super confidence in themselves which never looks back; which burns all bridges behind it. There is just uncertainty enough as to whether they will succeed to take the edge off their effort, and it is just this little difference between doing pretty well and flinging all oneself, all his power, into his career, that makes the difference between mediocrity and a grand achievement.

Self-reliance which carries great, vigorous self-faith has ever been the best substitute for friends, pedigree, influence, and money. It is the best capital in the world; it has mastered more obstacles, overcome more difficulties, and carried through more enterprises than any other human quality.

It does not matter what other people think of you, of your plans, or of your aims. No matter if they call you a visionary, a crank, or a dreamer; you must believe in yourself. You forsake yourself when you lose your confidence. Never allow anybody or any misfortune to shake your belief in yourself. You may lose your property, your health, your reputation, other people's confidence, even; but there is always hope for you so long as you keep a firm faith in yourself. If you never lose that, but keep pushing on, the world will, sooner or later, make way for you.

A firm self-faith helps a man to project himself with a force that is almost irresistible. A balancer, a doubter, has no projectile power. If he starts at all, he moves with uncertainty. There is no vigor in his initiative, no positiveness in his energy.

There is a great difference between a man who thinks that "perhaps" he can do, or who "will try" to do a thing, and a man who "knows" he can do it, who is "bound" to power, an irresistible force, equal to any emergency.

Self-confidence is not egotism. It is

knowledge, and it comes from the consciousness of possessing the ability requisite for what one undertakes. Civilization to-day rests upon self-confidence.

One reason why the careers of most of us are so pinched and narrow, is because we do not have a large faith in ourselves and in our power to accomplish. We are crippled by the old orthodox idea of man's inferiority. *There is no inferiority about the man that God made. The only inferiority in us is what we put into ourselves. What God made is perfect.* The trouble is that most of us are but a burlesque of the man God patterned and intended. A Harvard graduate who has been out of college a number of years, writes that because of his lack of self-confidence he has never earned more than twelve dollars a week. A graduate of Princeton tells us that, except for a brief period, he has never been able to earn more than a dollar a day. These men do not dare to assume responsibility. Their timidity and want of faith in themselves destroy their efficiency. The great trouble with many of us is that we do not believe enough in ourselves. We do not realize our power. Man was made to hold up his head and carry himself like a conqueror, not like a slave—as a success, not as a failure—to assert his God-given birthright. *Self-depreciation is a crime.*

The men who have done the great things in the world have been profound believers in themselves.

There is no law by which you can achieve success in anything without expecting it, demanding it, assuming it. There must be a strong, firm self-faith first, or the thing will never come. There is no room for chance in God's world of system and supreme order. Everything must have not only a cause, but a sufficient cause—a cause as large as the result. A stream cannot rise higher than its source. A great success must have a great source in expectation, in self-confidence, and in persistent endeavor to attain it. No matter how

great the ability, how large the genius, or how splendid the education, the achievement will never rise higher than

the confidence. He can who thinks he can, and he can't who thinks he can't. This is an inexorable, indisputable law.

## II.—The "Scientific Toy" that Made its Maker a Multimillionaire

"MY GOD! it does speak!" exclaimed Sir William Thomson (Lord Kelvin) in such bewildered amazement that he let the primitive little wooden telephone instrument drop from his hand. Elsie May, the eminent electrician, accompanied Sir William and was similarly astounded. It was at the Centennial Exposition at Philadelphia, June, 1876, and Gray's telegraphic exhibit, as George C. Maynard tells the story, was conspicuously exhibited in one of the main buildings, while the new telephone of Alexander Graham Bell, a very simple instrument, "no larger than a lady's toilet bottle," used alternately as a transmitter and a receiver, was very modestly set up in an out-of-the-way gallery, with no one to explain its operation. Bell, himself, was lecturing in Connecticut, but on the arrival of the great English scientist, Thomson, he was hastily summoned to Philadelphia to explain his new invention.

Sir William, who was familiar with the operation of various automata, such as cuckoo clocks and the automaton chess-player of Maastricht, which would say "check" in a very metallic tone, instead of a living player's "check," had expected to hear nothing more than the merest travesty of a real voice, or at best something of the ventriloquist, Punch-and-Judy order, and was for the moment overcome with astonishment at the telephone's perfect duplication of human utterance in every detail of quality and volume, tone and timbre, modulation, pitch, inflection, accent and emphasis. "Singing through the telephone," said a Washington paper, "is heard with a sweetness and softness that is marvelous and fascinating."

But even Sir William failed to appreciate the vast commercial possibilities of

the pretty little mechanical mimic. Other scientists of eminence and professors in schools and colleges were equally interested, and used the telephone to illustrate lectures in physics, but none of them seemed to have the least idea that it would ever be adapted to business purposes. Capitalists, also, gave very little encouragement to the establishment of either public or private lines as a safe investment. About August 15, 1877, the president of the Western Union Telegraph Company and Theodore W. Vail went together to examine a telephone and witness its operation "by an expert." After the experiments had been conducted with perfect success, the president, "in the most emphatic manner," declared: "It can never be of any practical use in business affairs." Mr. Vail did not venture to controvert this statement, but he improved the first opportunity to make an engagement with Gardiner G. Hubbard, father-in-law of Mr. Bell, to aid in establishing and conducting the new business. George W. Balch, another Western Union superintendent, also had enough faith in the new idea to think it worth his while to accept a perpetual telephone license for the entire state of Michigan without paying a dollar for it. When he went home, however, with the license in his pocket, his fellow employees of the great telegraph company laughed at him for "going into the boy business."

In all the articles the writer has ever seen upon the genesis of the telephone, it seems to be tacitly assumed that Mr. Bell stumbled upon the basic idea by a sort of lucky accident. Nothing could be further from the truth. Indeed, the invention has its genealogy, or pedigree, which I will attempt to give, although somewhat briefly and crudely.

His father, Alexander Melville Bell, devoted many years of his life to the cure of stammering or stuttering and the removal of other defects of articulation and pronunciation, in England and Scotland. In 1849 he published a work in which he said, "It would really be a matter of but little difficulty to reconstruct our alphabet, and furnish it with invariable marks for every appreciable variety of vocal and articulate sound." When he came to the attempt, however, he found several lions in the path; which, as is the nature of such beasts, did not show themselves until the huntsman came close to their dens. They were successfully attacked, nevertheless, and in 1864 his new system was perfectly completed. On September 3 of that year the "Reader" published this description of Mr. Bell's methods by Alexander J. Ellis, F.R.S., and author of "The Essentials of Phonetics":

"The mode of procedure was as follows: Mr. Bell sent his two sons, Edward Charles Bell and Alexander Graham Bell, out of the room (It is interesting to know that the elder, Edward, who read all the words, had had only five weeks' instruction in the use of the new alphabet) and I dictated slowly and distinctly the sounds which I wished to be written. These consisted of a few words in Latin, pronounced first as at Eton, then as in Italy, and then according to some theoretical notions of how the old Romans might have uttered them. Then came some English provincialisms and affected pronunciation; the words, 'how odd,' being given in several distinct ways. Suddenly, German provincialisms were introduced, then discriminations of sounds often confused—*ees*, *is*, (Polish); *eah*, *ich*, (German); *ich* (Dutch); *ich*, (Swiss); *out*, *oul*, (French); *ae*, (English); *ae*, (German); *vie*, (French); some Arabic, some Cockney-English, with an introduced Arab guttural, some mispronounced Spanish, and a variety of shades of vowels and diphthongs. . . . The result was perfectly satisfactory;

—that is, Mr. Bell wrote down my queries and purposely exaggerated pronunciations and mispronunciations, and delicate distinctions, in such a manner that his sons, though not having heard them, so uttered them as to surprise me by the extremely correct echo of my own voice. . . . Accent, tone, drawl, brevity, indistinctness, were all reproduced with surprising accuracy. Being on the watch, I could, as it were, trace the alphabet in the lips of the readers. I think, then, that Mr. Bell is justified in the somewhat bold title which he has assumed for his mode of writing—"Visible Speech." I only hope that, for the advantage of linguists, such an alphabet may be soon made accessible, and that, for the intercourse of nations, it may be adopted generally, at least for extra-European nations, as for the Chinese dialects and the several extremely diverse East Indian languages, where such an alphabet would rapidly become a great social and political engine."

An editorial in the "Athenaeum" of July 15, 1865, stated, among other things: "A full sneeze, for example, is a complex operation; it comes among what are called inarticulate sounds; but Mr. Bell writes it down, and, for aught we know, could undertake to furnish every member of the house of commons with a symbol representative of his own particular sneeze, as distinguished from those of all his colleagues. . . . Mr. Bell tries each sound himself, until the proposer admits he has got it: he then writes it down. After a score of such attempts have been recorded, his sons are called in and reproduce to a nicety all the queer labels which have a grave party of philologists have strained their muscles to invent. The original symbols, when read, sound after sound, would make a Christian fancy himself in the zoological gardens."

"The utility of such a method is obvious: it is clearly one of those steps of which people admit the utility so long as they can deny the practicability, and then when obliged to admit the practi-



ability they deny the utility. Mr. Bell has formed a high opinion of the range of application of his invention. He may, or may not, be fully justified; but every one can see a great deal of what he sees. To communicate through the telegraph by pure sounds, independently of meaning, so that Arabic or Chinese may travel from a clerk who knows not a word, to another just as unlearned as himself; to teach the dumb how to speak by instructing them in the actual use of their organs; to take down the sounds of foreign languages, especially those of savages, and to transmit them home; to learn how to pronounce a foreign language by interlinear use of the alphabet—sounds—will be a very pretty installment."

Mr. Bell then made this proposition to the British Government: "If the expense of casting the new types and publishing the theory of the system shall be defrayed from public resources, I will, on this simple condition, relinquish *pro bono publico* all copyrights in the explanatory work, as well as all exclusive property in the system and its applications, in order that the use of the universal alphabet may be as free as that of common letters to all persons."

This request was made in vain. The subject did not lie within the province of any of the existing state departments, and the memorial was, on this ground, politely bowed out from one after another of all the executive offices. On the 17th of May, 1867, Mr. Bell's elder son, Edward Charles, whose ability in demonstrating the linguistic applications of the system excited the admiration of all who heard him, died in his nineteenth year. Rebuffed by his country, and hereof of his brilliant son, he determined that the system should be published, whatever the sacrifice to himself, and about the first of the following September its "Inaugural Edition," of some 150, eight-by-ten inch pages, with complete illustrations and a full alphabet of all the new letters appeared sim-

ultaneously in London and New York. On pages 101 and 102, under the heading, "Visible Speech Telegraphy," the author says: "The indefiniteness of ordinary letters is productive of much inconvenience in international telegraphy. Messages cannot be transmitted in their original languages through foreign countries, but, for the convenience of operators, must be translated, of course, at the serious risk of error, and to the entire destruction of verbatim accuracy. The system of visible speech will render the telegraphing of words through any country equally certain and easy in all languages. The operator, while he may not understand a syllable of the writing, will transmit the *spissimo verbum*, and the very sounds of the original, as a *viva voce* utterance to the receiver."

Bear in mind that this was written more than eight years prior to the invention of the telephone! Yet evidently but very few steps were necessary for that writer or his son to enter the field of telephony.

Soon after he came to the United States, Alexander Graham Bell, who was also an expert in visible speech, married a deaf-mute, the daughter of Gardiner G. Hubbard, and the missing link of an incentive to study the transmission "Toy" of speech to apparently inaccessible ears led to the long and careful investigations which would almost inevitably end in the invention of some kind of telephone. The young husband was already expert in all the finest mechanism of human speech; he soon, by actual dissections, became equally expert in the mechanism of hearing, and soon all the relations and correspondences of the two were mastered. What is the telephone but a mechanical ear, with its drum, its resonance apparatus, its wires taking the place of nerves, etc.? The first instruments were receivers and transmitters all in one piece. Indeed, the receiver of to-day in a very fair transmitter, as anyone can test for himself.

## Civic Publicity: A New Profession

THE RISE OF A MODERN CALLING IN CITY DEVELOPMENT  
AND SOME OF THE MEN WHO ARE FOLLOWING  
IT IN CANADA

By Charles L. Barker

With the wave of publicity which has swept over Canada in the past year or two there has been created a new profession—that which catenoides publicity promoters. The profitable way in which large cities have utilized the services of these men in publicity campaigns is herein set forth. Not alone has the work been confined to cities; provinces have also hatched into it. Possibly the greatest benefits will accrue when countries realize the value of such a service and place competent men in charge of departments calculated to develop their natural advantages and through publicity secure for them a fair measure of prosperity.

CIVIC PUBLICITY has come to be a recognized factor in the growth and expansion of urban centres of population from one end of Canada to the other. It is an instant indication of the progressive spirit when any city is able to tell the visitor and the outside world that it has a publicity commissioner, an industrial agent or a press service bureau.

This is an entirely new department that has grown up within the past few years in the administration of municipal affairs. Where formerly, we were wont to get along with our finance, public works, fire, water and light committees, we must now have an industrial branch, or a joint committee of the city council or board of trade. The publicity committee is likewise coming to be no small spending department.

In this sphere of municipal government we see the rise of a new profession—a profession that pays salaries commensurate with the importance of the work performed. The fond father of the olden days who considered law or medicine the only professional outlet

for his talented son will think twice before making a choice before sending his boy into fields already overcrowded when an inviting avenue looms up before his eyes and he sees the magic sign: "Civic Publicity."

Ottawa is paying its publicity commissioner \$2,500 a year and provides him with a handsome downtown office. London induced the industrial expert of Hamilton to leave that city at an advance of \$1,000 a year and will pay him \$2,500 per annum. Regina engaged a publicity officer the other day at a salary of \$3,000, while Winnipeg is paying a similar official \$5,000 a year.

Braun, energetic publicity experts can find a position any place they desire to hang up their hats. The demand far exceeds the supply. The man who can produce results can almost name his own price.

The publicity movement gained its first impetus in the middle west and then developed with remarkable strides to the extreme limits on both sides of



W. E. Anderson, St. John, N.B.



H. M. Morse, Hamilton, Ontario.

the continent. It is hard to say just where the idea first broke loose.

Fort William was long known as a milling centre. That is, it was known and recognized as such every place else but in Port Arthur, its nearest neighbor. These two rival cities at the head of the Great Lakes were supremely happy when they were indulging in the pleasant pastime of heaving bricks at each other. One day Fort William emerged with a triumphant cheer over the engagement of a publicity commissioner at a salary that left Port Arthur in a dazed condition.

This new official happened to be one, H. W. Baker, who had seen service in some of the large cities of the United States, but had been attracted to civic publicity work as a promising field for early development.

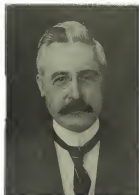
The advantages of Fort William were soon emblazoned in a manner that resulted in a very perceptible increase in the city's population. There was an in-

dustrial stimulus that benefited everybody.

Ottawa, the beautiful capital nestling up there among the Laurentian hills that make the Ottawa Valley a region of constant delight to tourists and those fortunate enough to have their residence in that district, decided, two or three years ago that it should join in the publicity procession or be left in the industrial lurch.

About a score of active members of the Ottawa Board of Trade met one evening, talked things over and came to the conclusion to launch a publicity campaign that would make the other cities gasp with astonishment and display a deep sea green of civic envy.

After a canvas was made of the merchants and manufacturers it was found that every last one of them stood in favor of convincing Canada and the world at large that Ottawa was more than a national capital and a peaceful home for civil servants.



L. T. McDonald, Regina, Sask.



Charles F. Roland, Winnipeg.

The publicity movement spread over the city like wildfire. It was talked from the hustings during the municipal election; in fact, it was the most popular subject any candidate could include in the course of his remarks.

The upshot of it was that Ottawa opened an industrial bureau, secured H. W. Baker from Fort William, as commissioner in charge, and has been spending \$15,000 a year, one-third of this sum being raised by board of trade subscriptions, and the other two-thirds coming from the civic coffers for a stated period under special legislation.

Montreal, the metropolis of Canada, was content for a time to pursue the even tenor of her way and maintain her commanding lead in handling the commerce of the Dominion. The conservative element looked askance at any movement with a view to the inauguration of publicity for a city with over half a million population.

But the march of progress was not to be arrested, and so we have in Mont-

real the Press Service Bureau, which has been organized "for the purpose of setting forth in a systematic manner by articles and advertisements the possibilities of the city with a view to attracting trade, commerce, capital and tourist traffic to Montreal in particular and the Dominion in general.

The development of the science of civic publicity is working havoc with the ranks of the newspaper men. Calgary is paying a handsome salary, something like \$4,000 a year, to Mr. Andrew Miller, formerly managing editor of the Ottawa Free Press, and a journalistic worker in Toronto for several years. Mr. Miller naturally believes in printer's ink, but he also employs what he calls "the gumshoe" method, which consists of quietly slipping away to New York or some other city and arguing out in person that Calgary is the only city on the Canadian map worth while hothering with. And rival publicity commissioners have to admit that Mr. Miller's



R. S. Fenwick, Quebec, Quebec.



Charles F. Hotchkiss, Edmonton, Alberta.

method is a winner, as they have found out to their own disappointment.

F. Maclure Schanders, commissioner of the Board of Trade at Saskatoon, is another newspaper graduate. He has led an adventurous career, having been twice around the world since leaving Glasgow, his native city. He works along original lines and gets results, because Saskatoon is growing and booming in true western style.

Mr. Arthur S. Barnstead, the secretary of industries and immigration for Nova Scotia, is a college graduate who took a law course and subsequently became editor-in-chief of the Acadian Recorder, the oldest newspaper in Nova Scotia. This bureau spends \$20,000 a year, of which one-quarter goes for salaries.

Take Mr. J. Grant Henderson, who recently transferred his allegiance from the Ambitious City that boasts of its famous mountain to the Forest City that boasts of the River Thames—excepting when it overflows in the spring

of the year. He is another publicity worker who enjoyed a long experience with the newspaper profession. He is a Hamilton man, born and bred there, but London made him such a generous proposal that he could not resist, and when the change was announced there was criticism over a stingy policy that let such a well qualified man get away to a rival city.

It is only two years ago since Hamilton Council made the first appointment of an industrial commissioner who would devote his entire time to this office, and in the intervening period over twenty large industries have located in that city.

London business men took a spurt recently in the publicity line, and besides engaging the services of Mr. Henderson, have raised the sum of \$100,000 to be invested in new industries locating in that city that require the assistance of local capital.

The Board of Trade in Brantford has raised \$3,000 a year in subscrip-



J. G. Henderson, London, Ontario.



Herbert W. Baker, Ottawa, Ontario.

tions for the next three years as an annual appropriation for an industrial bureau to be established there.

For the past year or two Windsor has shown surprising industrial development, credited to the work of Mr. A. W. Jackson, publicity commissioner, and the joint industrial committee of the board of trade and city council.

The city of Winnipeg was one of the pioneers in the publicity movement. A wonderful success has been achieved there, due to perfection of organization and the resourceful methods adopted by Mr. Charles F. Roland, the industrial commissioner, who is paid \$5,000 a year in salary, and has almost unlimited resources at his command for handling the work. The city grant in 1906 was \$1,500. It has been increased nearly a scorefold, as the grant was \$25,000 in 1910, and the same last year. Mr. Roland's excellent services have been recognized by his selection as secretary

of the international exposition commission that will have charge of the world's fair, to be held in Winnipeg in 1914.

Mr. Elliot S. Rowe, a native of Whitby, has been called the Ambulating A. D. for Vancouver. He is a teacher, preacher, lecturer, investigator and informant, but principally and mostly he is the official publicity purveyor for the metropolis of British Columbia.

Cities are not the only municipal corporations that have a monopoly of this new science of booming some particular community. The county councils are awakening to the importance of the work. During the past few months Lambton, Norfolk and Essex counties in Ontario have been placed on the honor roll, with the principal object of attracting settlers from Michigan, Ohio, Illinois and Indiana and from the Old Country, in addition to promoting the "Stay-in-Ontario" campaign.

## Nearly A Thief

By Ed. Cahn

DORIS was a very ordinary girl really, but nearly everyone who knew her considered her most extraordinary, for she had a way of doing the most unexpected things at times when the world, Mrs. Grundy, the Saints, or whoever it is that conducts the conventions, have decreed that only the most ordinary will do at all.

She was ordinarily good-looking, which in America, and New York in particular, means quite passable indeed. Her brown hair was of an ordinary shade, done up in the ordinary manner, achieved by the ordinary means, namely, a "rat." Perhaps she was a little out of the ordinary in this, for her head was innocent of that absurd rear-extension common to so many of our girls and which makes them look like a cross between a Hottentot and a flat-head Indian.

Doris looked like ten thousand other young business women in her tight-fitting black gown relieved with white cuffs and collar, the latter fastened with what looked like a crudely decorated dinner-plate, but known to commerce as a "hand-painted miniature brooch."

To do Doris full justice, she had her doubts about the brooch. She did not know the lady painted thereon and really did not like her face, nor her carelessly arranged hair, nor scanty drape, but since it was a gift, and she was afraid her coat would some day drag off her "good pin," she decided she would wear it.

She did not confess to herself that she wished the coat would be the means of ridding her of the present, and that at no distant day.

It is only the most extraordinary women who ever are truthful with

themselves and have the strength to throw away, give away or put away, anything that they ever got for nothing or at a great bargain, no matter how much it jars on them.

Doris was like the rest of the ten thousand. Tidy, neat, quiet, very efficient, reasonably prompt and with the outward patience of Job and the inner impatience of most of Eve's daughters with those with whom business brought her in contact. She had the happy knack of looking as pleasant as the cat that ate the canary, no matter what her inward feelings.

It was Saturday afternoon and her employer and all the boys employed in the studio had departed to bolt some sort of a luncheon and his themselves to the first baseball game of the season, leaving her to close the studio and finish the week's work, of which there are a great many odds and ends in a photograph studio, especially when it is not a thousand miles from Broadway and making a strong bid for theatrical work.

Doris attended to the reception room. She met the customers, arranged for sittings, secured advance payments, often a task which required enough tact, diplomacy and skill to qualify one for a foreign diplomat, and which Doris referred to contemptuously to her friend, the dark-room man, as "prying them loose from their coin."

She listened to all complaints from customers who thought their proofs ought to be speaking likenesses and at the same time, beautiful as the dawn, when they themselves, were as ugly as sin.

She could soothe, flatter, cajole, hypnotize, pacify, modestly suggest, freeze, demand, or shrivel with a look—all as occasion demanded. She kept the books

in shape, sent out proofs, put work through in a rush or kept it forever dallying on, waiting the arrival of the magic deposit that would send the photographs on their way to completion, re-joining.

Besides, it was her duty to supervise an unruly force of boys who did the more or less mechanical work connected with the "portraits," put up with the vagaries of the operator—the chap who took the pictures, for he was quite a genius in his own way and came perilously near being really artistic on his best days.

All this Doris considered merely part of the day's work and did not worry over. The chief trial of her life was her employer.

He was a sly Irishman and absolutely unique, for he had utterly no sense of humor. He had watery blue eyes, a free typical of a comic page "Pat," pale yellow freckles the size of a gold dollar, a squat square figure with long arms that made him look unpleasantly like an ape, and to top it all, very long, bushy red hair which he wore a la chrysanthemum, fondly fancying that it made him look "artistic."

He belonged to one of those absurd would-be Bohemian clubs which meet once a week in some tawdry hotel, have a dinner and talk shop, or pretend to, which seems like the same thing, but when you come to think of it, is not. No, not by a jug-full. That last certainty has no place in this story, for who ever heard of a full jug at a near-Bohemian dinner?

This remarkable specimen sported a name which savored of the French, the mere sound of which served to send Doris into a spasm of disgust.

He was an unreasonable, rude, irritating bundle of conceit and pretense and Doris who had christened him "Fluffy" on account of his fuzzy hair, used to pray that his other interests would keep him away forever.

Like many receptionists, she had often wrathfully vowed that she would

"quit some day," and thought better of it later.

Fluffy was not entirely idiotic. He had his lucid intervals. He considered Doris really quite an unusual girl and more valuable than she knew. But he took precious good care not to let her suspect his opinion and was careful never to be too disagreeable, too carping, or too driving. He would vent his ill-nature whenever he could, but knew just when to stop.

When it came to knowing how to load a camel, Fluffy was an expert. He could pile on a staggering load, but trust him to withhold the last tiny straw that would break its back.

Thinking of his last piece of meanness, Doris was in a bad humor and the discovery that the printer had not made some proofs that should have been mailed away that day, did not improve matters.

She hunted out the negatives and looked across the surfaces. "Bother! Not retouched for proofing."

Seating herself before a retouching case she proceeded with a deft pencil to eliminate some harsh lines in the face of the belle of the boards before her.

It would not do to let that actress see even the first proofs, disfigured with those lines. Doris knew that well enough and fancied the scene should they be left. Why, she would come down in a tearing rage. Those lines in her face? Never, never, never! What kind of a career did they have anyway? So Doris smoothed and flattered.

Then she clapped the glass plates into printing-frames, skipped out the door and ran up the short flight of stairs to the roof where she spread them out on a shelf in the sun for a few moments.

The air was warm and spring made itself felt in spite of difficulties even here, goodness knows how many feet above the street.

Doris drew in long breaths of the balmy air and after the proofs had been exposed long enough, whisked them out of the frames and into a box out of the light, and lingered.

She took long deep breaths, and, shoulders thrown back, paced up and down doing a little exercise recommended to round out the chest which she had read in a Sunday newspaper, and forgot all about Fluffy, her troubles and the fact that the building was doubtless entirely empty by this time, and the studio wide open.

For perhaps ten minutes she thoroughly enjoyed herself but her mind did not allow her much forgetfulness and suddenly reminded her, stopping the calisthenics short.

She hastily stacked the negatives into a little pile and, as she could not manage the clumsy wooden frames and the negatives, the proof-box and her skirts all at the same time, she decided to risk the wrath of the printer and leave the frames behind.

As she stepped through the roof door and locked it behind her she started at a noise below. The stair was pitch dark, now that the door was closed and some instinct made her draw herself closely into the corner.

Poering through the gloom to the bottom of the stairs, she saw that the door there was not quite half open and the dim light from a court window threw a pale gleam across the floor.

There was a shadow creeping across it which she watched breathlessly. It grew larger and larger, drew back, stealthily loomed up again, and the head of a man peered around the door.

Doris held her breath and crouched lower. It seemed ages that the intruder gazed up the stairway. He did not start nor speak and she knew he could not see her for the darkness. At last he seemed satisfied there was no one there and closed the door. Doris heard the lock click and the key withdrawn and his cautious footsteps through the entry leading to the studio.

Her hand flew to the pocket in her apron. There, beneath her handkerchief and the letter from Aunt Mary that had come that morning, was her bunch of keys. Mechanically, she found

the one to fit the door, while she considered the situation.

She had not seen the man plainly but had a general impression of curly hair and a gaunt face half concealed by a masking handkerchief. That sixth sense with which she was as well endowed as any woman, told her that though he was a burglar, he was now at the business and very nervous.

"I wouldn't wonder if he'd be more scared at the sight of me than I am of him. Wonder what he is after. He might know the boss would not leave any money in the place on Saturday and—the lens! The lens! Fluffy forgot to lock up the best lens! The one in the big camera, the pride of his heart."

She had often heard him dilate on its merits, declare there was not another one like it in America, the fabulous value he put upon it, the incredible price he claimed to have paid for it, and the vengeance that would surely fall upon anyone who would harm it in the smallest particular.

With horror she remembered that the first thing a thief would seek in a photographer's studio would be the lens. A few turns of the wrist and he would have it unscrewed and dropped into his pocket. It would not take two minutes. Perhaps he already had it!

She put the negatives down on the top step, carefully gathered her skirts around and stole down stairs still grasping the little box of proofs.

By this time she was calm enough to remember that the fourth step creaked and that she must be careful to step over it, and to be thankful that her shoes were noiseless.

At the bottom of the stairs she paused and listened. Not the faintest sound. She inserted her key and listened a moment before she turned it. She felt sure that if her burglar was on the other side of the door, in the entry which opened into the studio, she could have heard him breathe, so intently did she listen.

"It would serve old Fluffy right if he did loose that lens," she thought. "If



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"Empty your pocket!" she said sharply.

I had any sense I'd sit down here and let him carry off the whole place for all of me." Nevertheless, she opened the door and stepped out, closing it behind her after a swift glance around.

So far so good. Almost opposite was a door leading into the studio. To this she crept. There was a heavy velvet curtain, its stiff folds falling straight to the floor, hanging there. Very cautiously Doris peeped through the tiny opening in the middle. She commanded a view of the reception-room, the dressing-rooms and part of the studio proper.

There was no one in sight. The camera stood in the centre of the room just as she had left it, its black hood flung carelessly to one side, effectually preventing her from seeing whether the lens was there or not.

She had almost decided that the thief had gone, when he glided out from behind some scene-rooms. He was evidently just finishing a cautious tour of investigation for he stopped as if satisfied with the outlook. His face was turned away from her and he could not have heard her stifled exclamation at the sight of the ugly revolver in his hand, for he did not turn.

He was glancing about as if puzzled. "Hum," thought Doris. "But he has never been in a studio before."

He opened a wardrobe in a corner and ran his fingers through the pockets of Fluffy's coats hanging there but found nothing. Doris' purse lay on a shelf and he rifled that.

"There goes my week's salary," she thought mournfully.

Then he came toward her hiding-place and for an awful instant poised so close to her that she was certain he must be able to feel her body behind the curtains. But he merely twitched the mask a little higher, went into the office and began to rummage through the desk.

All the drawers were open save one. That, Doris kept locked, for it contained her box of powder and puff. She al-

most laughed as she watched him working away at it.

There was a small table at one side of the desk and slightly behind him. On this he laid his revolver and went to work at the lock with feverish haste.

"If I only had that gun. I think I could bluff him with it. I must have it! When he gets that drawer open he will be crazy and might start to wreck the place just to get even. Then he might see the lens and take it on a chance and if he ever sees me—When!"

Then she tossed the box of proofs onto the table to announce her presence. It struck the polished surface with a smart snap and had the effect of a bomb on the stillness and the burglar's nerves.

He started violently and wheeled around, reached for his weapon and found it in the hands of Doris.

"A girl!" he gasped and sank into the chair beside him, silent.

She was prepared for defiance, cursing, even for a spring, but that unmistakable air of shame surprised her. She stared at him masked and averted face a moment, struck with his respect; somehow he looked almost familiar.

"Empty your pockets!" she said sharply.

The burglar did not move.

"Quick!" she commanded in such a tone that he made clumsy haste to do so, turning out some soiled handkerchiefs, a knife, and her little roll of bills which she recognized by the rubber band about them. The lens was not in the pile on the desk when all his pockets were inside out.

"Don't seem to be much in your business," said Doris coolly.

"Take off your cap!" Slowly he pulled it off, revealing an unkempt mass of black curls.

"Now the mask." The burgler hesitated.

"Please miss—" he begged. "Let me go!"

"No!" cried Doris, angrily stamping her foot. "You low miserable thief! Take off that mask or I'll shoot you."

Her tone was unmistakable. Slowly, as

if it was of great weight, he lifted his hand, swayed, and with a moan slid out of the chair and lay still at her feet.

This turn of affairs almost surprised Doris out of her composure.

His eyes were closed and she noticed that his long black lashes had the upward curl of youth. Still fearing a sudden attack she held the weapon in readiness, knelt beside him and suddenly jerked the mask away.

He was a mere lad with not at all a bad face though it bore many marks of suffering. His cheeks were sunken and he had the terrible pinched look that tells of starvation. Doris saw he had fainted from exhaustion and her stern look vanished.

"Hungry! Poor kid. Why he's only a boy. Gee! Just driven to it I guess, starve or steal. Bet he has been sleeping in the parks for a month. What a shame."

She put the revolver down on the desk, ran to get some ice-water and bathed his face, no longer thinking of him as a burglar to be feared but just as a starving boy.

"My, no wonder he looked familiar to me. He's a lot like Jimmie. Just his size and just his hair to a dot."

She thought of her brother as she lifted this stranger's head to her knee. What if Jimmie, far away in the West seeking his fortune, had hard luck and starved like this boy?

Would he fall into such hands as hers? How she would bless the girl that would help him, instead of yelling for the police. Well, she would wait awhile before she yelled for the police—that was sure. She decided as she smoothed back the hair on the boy's forehead and loosened the collar of his shirt. "I bet you are some girl's brother, maybe some girl's sweetheart, and I'm going to help you for their sakes and because I've got a brother too."

She forced some of the water between his lips and vigorously applied a wet towel. In a few moments there were signs of returning consciousness and

presently he slowly opened his eyes. Doris put the glass to his lips and told him drink. "There," she said kindly, "that will refresh you."

"Boy," she said suddenly, "I'm awfully sorry I spoke so mean to you a while ago. I didn't know you were starving. Do you think you can walk now? I want you to come out in the work-room. I'll make you a cup of tea and fix you up in no time."

The burglar had not raised his eyes to hers after the first stare of returning consciousness and now the dull red glow of shame dyed his face and neck.

"I think you can," said Doris ignoring that, but nevertheless pleased to see it. "Come on, let's try it." She regained her feet and assisted him to a chair.

"There now. I'm going to telephone for something for you to eat." She picked up the telephone and called a restaurant a few doors away, ordering a generous meal, and asking that it be sent up at once.

The burglar, too weak after his collapse to speak, watched her in silence as she unlocked the studio door which he had locked to prevent discovery from that side, picked up his fallen mask and cap, made a bundle of his handkerchiefs and knife, tidied the desk and removed traces of his work at the locked drawer which she opened with her key and into which she put her bills and last of all the revolver, but she did not re-lock the drawer.

"There," she said turning to him. "That is to show you that I trust you. I know you are no more a burglar than I am."

"I—I—I" He began brokenly.

"Not a word," interrupted Doris. "You are too weak to talk. Come out here." She held out her hand and helped him to his feet.

Once out in the work-room she installed him in a chair, drew up a small table before him and heaved some tea.

Presently the bell rang and Doris opened the door to a man bearing a tray laden with a steaming meal which he

set before the burglar while Doris said merrily, "Pitch in!"

He tried to thank her—to stammer an apology, his eyes full of tears and his voice husky as he hung his head in miserable shame, but Doris refused to listen and bustled off to the other end of the room.

There, she drew out the letter from Aunt Mary. It contained a ten dollar bill which she wrote was to be used only to extend Doris' vacation from one short week to two.

She looked at it a long time, her mind conjuring up all the delights of an extra week in the country and re-read the part of the letter which said so positively that she needed a rest.

Then she put it back into her pocket with a little sigh and tried to forget it.

When her guest had finished she returned.

"Let me thank you," he begged, his eyes now meeting hers. "You are the best."

"Never mind that," said Doris hastily. "I suppose I ought to have turned you over to the police, but—well—you don't look like a real crook. Tell me, what made you do it? Did you ever do anything like this before?"

"Never! I—I was starving, starving! I—"

"That is a dreadful thing but stealing is worse. I'm not going to lecture you, only, don't do it again. Perhaps if you had found someone else here you would have been in jail by now. Think of it! A young man like you, with his whole life before him ruined at the start by a thing like that. You were nearly a thief but now—"

Just then she heard the elevator-bell ring, far below, the unmistakable three sharp rings of no one in the world but Fluffy!

"Oh Heavens! Here's my boss! Oh dear, he has remembered the lens. He will be here in a minute. You must go or I never can explain!"

She rushed into the other room for his things, thrust them into his hands and hurried him to the door.

"Don't be afraid," she whispered. "Nobody knows about your being here and I'll never tell. You were only down on your luck, that's all. Here is some money—take it and get a new start. Now go!"

"No," said the lad firmly. "I can't take it." He seemed puzzled at her agitation, his glance taking in the empty dishes on the table, his look questioning.

"Oh, I'll say I was kept late by work and ordered a lunch in," she answered, reading his thought. "I can explain. It will be all right, if only the boss doesn't see you."

The elevator was coming up and she was frantic.

"Run down the stairs, quick! Don't make any noise," she implored, clenching his weak fingers over Aunt Mary's bill.

"It's for my brother's sake I do this. Please take it and hurry. Do you want to get me into trouble?"

"No, I'll go and I won't forget what you have said nor what you have done for me." He turned then and went down the stairs without another word.

Doris closed the door and made a dash for the chair at the table. The elevator-door slid open and in came Fluffy. "You here?" said Fluffy, moping his brow.

"Yes, I thought you'd be back and I did not want to go away and leave the lens here."

She ran up stairs for the negatives she had left, put them in their places, got the proofs ready to mail, slipped the revolver and talk out of the drawer and into her purse unobserved and telephoned to have the dishes removed.

Fluffy, muttering and growling to himself, had put his beloved lens in the safe and had departed with never a word of thanks.

Doris waited until the waiter who came to remove the dishes was gone, and then, being only an ordinary girl, put her head down on the desk and burst into a storm of relieving tears.

## John Ross Robertson

CANADIAN PUBLISHER-PHILANTHROPIST OF COMPLEX AND CONTRADICTIONARY CHARACTER AND ODD HOBBIES

By W. A. Craik

There could be no more interesting subject for a racy character sketch than John Ross Robertson, the newspaper publisher, the philanthropist and the hobbyist. In his career the scintillation of genius are revealed at almost every stage. But while he may be the opposite of men, he is undoubtedly an extraordinary figure in many ways, and the story which centres around his rise in business, his generous support of good causes, and his pursuit of odd hobbies is, indeed, unique. This sketch reveals some of the more dominant characteristics of a composite personality.

GREAT deeds are sometimes wrought by strange people, and a rough exterior often conceals a kindly heart. The world is full of contradictions. In a sense, John Ross Robertson, Toronto's publisher-philanthropist is one of the most opposite of men. It would be natural to assume that the great-hearted patron of the Sick Children's Hospital was a man of soft and winning personality, gentle and kindly in manner, smiling and friendly in appearance. But outwardly at any rate, the man belies the description. His aspect is that of the dour Scot, his manner is oft-times gruff, his features set in a mould of unalterable sternness. One must needs break the outer shell, with all its peculiar characteristics, before one arrives at the true inwardness of this composite personality.

Ross Robertson's chief title to distinction rests in his ceaseless endeavors to alleviate the suffering of little children. Himself keenly sensitive to pain, his sympathies have gone out to all afflicted mankind, and his great philanthropies have been in the direction of

providing medical help and bodily comfort for diseased and injured children. The great monument of this work stands on College Street in Toronto, a lasting memorial to the man who reared it.

But there are three personalities in the Robertson make-up and, while the philanthropist is the most outstanding by reason of its wide appeal, the other two are none the less interesting. Indeed, in Robertson, the newspaper publisher, and in Robertson, the hobbyist, are to be found two decidedly unique studies of temperament. From the standpoint of the man of affairs, his career as a journalist is probably of superior importance; writing for the press, managing and publishing newspapers, has been his life-work, and because of this, these phases of his life are necessarily of greater interest. But none the less, his enthusiastic pursuit of certain odd hobbies, throws a side-light on his character that brings the man himself into sharper outline and relief.

That the boy is father of the man is well illustrated in his case. The son of

the late John Robertson, a wholesale dry goods merchant, he was born in Toronto, on December 28, 1841. Sent to Upper Canada College while yet a small boy, he early acquired a fondness for the printing art. The mind, which in maturity still takes a delight in watching a great metropolitan newspaper come piling out from a big cylinder press, was then fascinated by the miracle of type and platen. There was a glamour surrounding the dirtiest of printing offices that transformed its squalid confines into a place of vast attractiveness. Young Robertson was enthralled. Nothing would do but his father must purchase a small printing plant for him to play the man with, up in the attic of his home.

With boyish zeal he set to work to produce his first paper. He had no wild notions of publishing a periodical that would compete with and eclipse existing newspapers. In the circle of his schoolmates he saw a field of action that appeared to offer sufficient opportunity for enterprise. The first issue of the *College Times* appeared in 1857, and under that name and subsequently that of the *Boys' Times*, it was continued for three years. It is not known just how remunerative the undertaking was, but young Robertson was a stirring youth, and it is to be assumed he made both ends meet. Following his transfer to the Model Grammar School in 1860, the young publisher launched another school paper, which he called *Young Canada*, and ran it for a year. In all this publishing activity, the boy performed every necessary function, writing the copy, securing the advertisements, setting up the type, printing the paper and selling it.

When he left school, Ross Robertson's feet naturally gravitated towards a printing office, and for about a year his was a familiar face in the office of the *Christian Guardian*, the *Globe* and the *Leader*, where he worked for a time at the case. But it did not suit the young man's fancy simply to put another person's ideas into type; that was

being too much of an automaton. He longed to create and disseminate ideas himself, and the only way to do this was to set up once more as a publisher. To this end he equipped a small printing plant and essayed to produce a paper called *Sporting Life*, the existence of which in those auto-baseball days was not a lengthy one. On the demise of *Sporting Life*, the *Grumbler* was launched. This was a weekly paper of the satirical type, obviously modelled on the lines of certain English publications. It was an ambitious venture, calling for much originality and fearlessness, and for a time it seemed to prosper. Young Robertson acted as its manager, and Tom Moss (later Chief Justice Moss) was its editor.

When the *Grumbler* ceased publication in 1863, the *Leader* took him on its staff as reporter, and for two years he was associated with this old newspaper. Then he transferred his services to the *Globe*, acting for two years as its city editor. It is said of these days when he was actively associated with the news rooms of the Toronto press, that he introduced the modern idea of bringing in crisp little paragraphs about a multiplicity of happenings, rather than confining his efforts to a ponderous treatment of outstanding events. Be this as it may, he had the instinct, highly developed from experience, of knowing just about what the public wanted.

The year 1866 found him associated with some others as one of the founders of the ill-fated *Daily Telegraph*, a paper which enjoyed a brief career of five years and then snuffed out, when the John Sandfield MacDonald Government, which it supported, went out of power. Robertson, out of a berth, appealed once more to the *Globe*, and was sent by that paper as its first resident correspondent and business agent to London, England, where he remained for three years.

The turning in Mr. Robertson's career as a newspaperman was now reached. This date from the time he

first became associated with Professor Goldwin Smith. The eagle of the Grange was at that time interested in the publication of a paper called the *Nation*—the organ of the Canada First

had other ambitions, and fortunately, Professor Goldwin Smith approved of them. Whether John Ross Robertson foresaw the future or simply took a long chance is uncertain. At any rate,



JOHN ROSS ROBERTSON.

Party. Being in need of a manager, he sent for Robertson, and offered him the position. The offer was accepted, and for a year the business control of the *Nation* was in his hands. But he

he had a presentiment that an evening daily would fill a want and ultimately prove a success. So with the support of Goldwin Smith he established the *Evening Telegram* in 1876. During the



thirty-six years which have since elapsed the publication of this paper has been the sole concern of his business life.

From the publishing standpoint the notable achievement of Mr. Robertson's career as proprietor of the *Telegram* has been the building up by slow, but sure, stages of the immense condensed advertising patronage which that paper to-day enjoys. It must be apparent that under modern conditions at least one newspaper in every large city shall control the bulk of this kind of specialized publicity. That the *Telegram* has earned it for Toronto is a sufficient tribute to the perspicacity of its guiding spirit.

At the same time, the news columns have not been sacrificed to make way for a greater array of "Houses for Sale" or "Domestics Wanted" advertising. It has been the pride of the owner of the *Telegram* to give the public the most complete news service that a rational expenditure of funds could buy. While lacking the sensational make-up of most modern dailies and concealing its good things behind a solid barricade of advertising pages, the *Telegram* gives excellent value for the money in the way of telegraphic despatches and local news. It might almost be said that a small-tooth-comb-policy has been adopted in ferreting out the news, for there is scarce a happening of the least importance which fails to receive attention.

A story still goes the rounds among newspapermen, which illustrates graphically Mr. Robertson's determination to have the *Telegram* an accurate mirror of the city's life. In his desire to let nothing escape, he has long been in the habit of watching the other evening papers closely. Whenever he discovers that they contain stories which do not appear in his own publication, there are reactions such as only a John Ross Robertson can raise. The afternoon papers are regularly placed on his desk as soon as they appear, and it does not take the veteran journalist long to skim

their pages and size up the situation.

One afternoon, so the story goes, Mr. Robertson entered his office and found the papers on his desk as usual. He picked up the first one, and observing a scare head referring to some exciting event in city life, he hurriedly seized the first edition of the *Telegram* to see how his own paper had handled it. He flung over page after page, growing more and more wrathful as his search disclosed no sign of a reference to the incident. Picking up the *Telegram* and the paper which had evidently scooped it, he stalked into the city editor's office and gave voice alike to his indignation and his opinion of the editor. For a few moments the air was blue, while the victim of the onslaught sat speechless beneath the attack.

When at length Mr. Robertson had cooled down, the editor took up the other afternoon paper and pointed out that the charges were entirely unwarranted, for the simple reason that the paper was over a month old. Evidently through some carelessness on the part of the porter, an antiquated copy had found its way to the proprietor's desk, and had been placed on top of the afternoon editions; possibly it had slipped down behind some days before and had been only just recovered in one of the periodical house-cleanings. But, the editor's explanation did not have the supposed effect on the irate proprietor. There was no semblance of an apology.

"Humph," growled he, "That doesn't make any difference. Everything I've said goes."

When the agitation for an all-Canadian news service from England was at its height, it was John Ross Robertson who came forward and made the formation of the Canadian Associated Press a possibility. He has been its president since its establishment and has taken a keen interest in its work. Nor has he lacked enterprise in obtaining exclusive telegraphic service for his own paper. When the Judicial Committee of the Privy Council issued its famous judg-

ment in the Level Crossing Case, in which the City of Toronto was vitally interested, he did not hesitate to expend \$2,500 for a verbatim report by cable on the day it was handed down.

An erratic and impulsive individual he may be, but in the treatment of his employees he has shown himself generous to a fault. The *Telegram* building is a palatial workshop; its equipment of the best. The men and women, old and young, who work for him there either with brain or hand, are well cared for. While he demands zealous service and can be at times exceedingly arbitrary, yet once a man shows that he is to be trusted, he can find no kinder or more considerate patron.

There was once a proofreader in his employ, who had an unfortunate fondness for strong drink, which frequently incapacitated him. Mr. Robertson put up with him for a long time but finally decided to dispense with his services. He scribbled out an advertisement asking for applicants for the position, meanwhile retaining the services of the old reader until he could get a new one. Strange to say there were no applicants. He sent up a second advertisement. Still no response. This went on for several days and not a sign of a proofreader appeared on the scene. It finally transpired that the man who was to be fired, scenting a rat, had taken it upon himself to cut out the advertisements as they passed his desk. An ordinary man would have been exceedingly wrathful at this procedure, but not so, John Ross Robertson. There was something intensely human about it which touched his heart. He sent for the proof reader, gave him a good lecture and retained him on the staff, during good conduct.

The strange contrariety of the man admits of frequent illustration. Perhaps he may be walking along the street when a newsboy accosts him with his, "Paper, sir?" The very suggestion seems to irritate him and he growls out, "No," with a ferocity that frightens the poor boy. But the chances are that he

will not have gone twenty paces, before he turns and calling, "Here boy," presses a quarter into the hand of the astonished youth. A creature of impulse, his first instinct is to resent vigorously any interruption to his plans or purpose; then, realizing in an instant the pain he may have caused, his whole being responds to a countercurrent of feeling and he swings to an extreme of generosity and kindness.

Many stories are told of the almost quixotic exhibitions of his greatness. On one occasion as he was leaving the Sick Children's Hospital with Mrs. Robertson he noticed a shabby-looking, bedraggled old woman, sitting on the step at the entrance. Invariably curious about everything and every person who crosses his path, he paused to ask in his gruff way, what she was doing there. Learning a rather pitiful story about her weariness and the long distance that lay between her and her poor home, the children's benefactor insisted on her getting into his carriage just as if she had been some fine lady and driving her home. It was not a case of handing out a street car ticket, as most people might have done, but of treating the woman as an equal.

He is the kind of man who will unostentatiously perform many kind deeds. One of his workmen may be sick; the Robertson carriage will be sent down regularly, with coachman and all, to take the invalid out for an airing. He may encounter a peddler or a washerwoman in difficulties and though it may be in a public place he has been known to lend a helping hand to get them out of their difficulties. There are not a few poor people in Toronto, who call his name blessed, for once he becomes interested in a person, his solicitude on his behalf is sure to be lasting. The quantity of coal which he gives each winter to needy people is known only to himself, but that it amounts to hundreds of tons is evident.

The outstanding example of the man's philanthropy, however, is the Hospital for Sick Children in Toronto.

He became associated with it, when it was only a small and struggling institution. He took hold of it with a tireless enthusiasm, based on a sincere and fervent desire to alleviate suffering. During his association with it, he has probably spent a quarter of a million dollars in its interests, bearing on his own shoulders a heavy portion of its maintenance charges. The splendid building which it now occupies, the no less excellent Nurses' Home near by and the summer hospital on Toronto Island are all the fruit of his endeavors. A work such as this puts into the shade all a man's imperfections, be they what they may, and he stands forth before God and man as an earnest worker towards a high and holy ideal.

The third personality in the Robertson make-up, and by no means the least interesting of the three so being perhaps the most human, is the hobbyist.

Excluding such commonplace pursuits as motoring and golf, the number of Canadians who may be classed as hobbyists of one sort or another is lamentably small. Of the few notable people who do indulge propensities of this kind, John Ross Robertson is one of the foremost, if indeed he be not the chief. His main obsession is for historical pictures relating to Toronto and Canada. With him the collection of antiquated prints and paintings, both of persons and of places, has been a perfect mania. He has spent time and money in their acquisition and has put as much energy and enthusiasm into their pursuit as most men would put into their own commercial undertakings.

In addition to pictures, he has also made a hobby of gathering together historical material—books and manuscripts, letters and diaries. He has followed these to earth with the relentless zeal of the fox-hunter. At times, practicing guile, at other times expending considerable sums of money, he has rarely failed in the chase. London, Paris, New York and San Francisco have seen him hunting around among

their second-hand districts ferreting out odds and ends, while at home he is a well-known patron of many dealers in antiques and curios.

To illustrate the enthusiastic determination of the man, one needs not refer to a story which he tells himself about his search for a portrait of the first grand master of the Grand Lodge of Masons in Canada. He had certain evidence that this portrait once hung in a hall at Niagara. He visited old residents of the place, and sought to learn from them what had become of it. Finally he obtained information that it had been taken to England. On his next visit to the Old Country he at once resumed the search. He had few clues to go by but such as he had he followed up carefully. At length he ascertained that a descendant of the grand master, who had been in the Navy, was residing somewhere in the country, but where to find him was the problem. He went to a certain government office and explained his errand. With an exasperating display of red tape, the officials refused to disclose the address of the retired officer, but promised they would write to him at once and secure his permission to give out the information. This was not at all satisfactory to the eager searcher and he determined by the exercise of a little guile to find out for himself. A little questioning of one of the messengers, aided by a piece of silver, served to inform him that the mail would be taken out at a certain hour by a certain messenger. It was then an easy matter to arrange with the latter to show him the letter with the desired address. No sooner had he secured the address, than he took the next train for the place and thus brought his search to a successful conclusion.

Mr. Robertson has not made his hobby a selfish one. While he has undoubtedly taken a keen pleasure in gathering together his collection of pictures, he has been public-spirited enough to recognize that they had a national value. As the culmination

therefore, of his endeavors, he recently presented to the City of Toronto, twenty thousand rare and valuable prints roughly valued at twenty-five thousand dollars. This unique collection, bearing his name, now finds a suitable home in the fine new Reference Library building in that city, providing for future generations a rich treasure of historical material.

But picture-gathering has been only one phase of Mr. Robertson's work as a hobbyist. He has gone further and has derived much satisfaction from collecting material dealing with the history of Toronto. He has published this from time to time in the columns of the *Telegraph* and then re-published it in book form as it accumulated. Five bulky volumes of "Landmarks of Toronto" have now made their appearance, filled with a wealth of valuable information about the city. But with a strange perversity, the compiler has hoarded his treasure in unworthy quarters. The books themselves are cheaply made and will not stand the ravages of time. Here again one encounters another of the inexplicable features of a complicated character—the willingness to spend thousands in acquiring rare material, the unwillingness to go to a corresponding expense in publishing it. For, after all, this gathering of landmarks is really a hobby and not a money-making enterprise, or there would be some reason in cheap production.

Bibles have been another of the collector's objectives. He has acquired a comprehensive collection of all sorts and conditions and probably has one of the best assortments in the world. Among his treasures is to be found a copy of the famous British Bible. Then, again, he has made a hobby of books concerning the masonic order. Indeed, he has been the historian of masonry so far as Canada is concerned, having written four books on the subject and being engaged in the preparation of a fifth. The attention he pays to his own family records may be reckoned as a species of hobby, for he makes it a point

to preserve all manner of documents, letters, telegrams and newspaper references, bearing on his own life, all being carefully filed away.

So far as his interest in history is concerned, apart from the collection of pictures, this may be exemplified in the recent publication of "The Diary of Mrs. John Graves Simcoe," which he edited and annotated. In fact, there is no man living in Canada to-day, more versatile in his pursuits, more systematic and persevering in his enterprises, and more completely the master of what he has learned than John Ross Robertson. Only a man of great energy and activity, strength of mind and uniformity of purpose, could achieve what he has achieved.

Mr. Robertson sat for Parliament once. In the election of 1896, he contested East Toronto as an Independent Conservative and went in by a huge majority. It was no special love for the distinction, that influenced him to enter public life. The root of the matter was probably the settlement of the Manitoba School Question, which exercised his mind considerably at the time. He only remained in the House for the one term, resigning before the election of 1900.

In the Masonic Order he has held high rank. In 1890 he was Grand Master of the Grand Lodge of Canada and was subsequently chosen Grand First Principal of the Grand Royal Arch Chapter of Canada. In 1891 he succeeded Sir John A. Macdonald as Grand Representative of the Grand Lodge of England in Canada. Again, at the coronation of King Edward in 1902 he was awarded the honorary rank of Past Grand Warden of England.

If landmarks have placed him among the historians and if his Masonic affiliations have allied him with many great and powerful names, his interest in hockey has endeared him to thousands of young athletes throughout Ontario. He is in a sense the father of hockey in the province, the man who

has done most to keep the game on a high level and to maintain its popularity. This he has done through the Ontario Hockey Association, better known as the O.H.A., of which he was president for many years, and to which he gave constant support, often sacrificing much of his time to its interests.

A many sided character and interested in a vast number of subjects it is by no means surprising that John Ross Robertson should be a sermon-taster. The Scotch in his make-up discloses itself conspicuously in a fondness for hearing preachers wag their tongues in pulpits. He is constantly on the watch for the visits of celebrated divines and has probably heard more noted clergymen deliver sermons than most men of his age. Seated in that characteristic attitude of his, with head thrust forward and those stern features bent fixedly on the speaker, one could readily imagine him to be one of those old covenanted Scotchmen of the seventeenth century, to whom long-winded discourses were the very breath of life.

Yet with all that stolid seriousness of mind and deportment, John Ross Robertson is by no means bereft of a sense of humor. Beneath the outer layer of stern solemnity, there lies hidden a bubbling well of good-fellowship that occasionally breaks through the mask. Quick to observe the humorous side of things and fond of a good joke, his stories are rendered all the more pleasant by reason of the very contrast between the gravity of the man and the ridiculousness of the incidents. His predilection is for the dark type of anecdote, of which he has good store,

for he has travelled and sojourned a great deal in the southern states and has picked up a lot of stories from personal experience.

The amazing use which the colored folk make of long words invariably amuses him. He often tells of an occasion when he was staying in a southern hotel, and, wanting to take a bath, he sent for one of the maids to prepare one of the bathrooms for his use. Presently the dusky damsel returned, and with profuse apologies informed him that he would have to take his bath on the floor below, because she could not "manipulate" the water up to the flat on which his room was located.

Mr. Robertson has travelled a great deal and with that restless energy of his, he sees everything that can be seen. It is a great pleasure to him to pick up all sorts of odds and ends, particularly articles of historical interest; to mingle with odd characters and to observe manners and customs. His mind is well-stored with observations on a great variety of subjects, derived from many years of globe-trotting.

The many-sidedness of his personality renders it almost impossible within the limits of a magazine article to do adequate justice to all his activities. A man who has lived so intensely for seventy years has naturally crowded into his span of life a tremendous amount of action. If some slight idea of his character has been afforded by the foregoing description—a character, complex and contradictory in many respects—the purpose of the writer will have been accomplished.

## A Legend of the War of 1812

HOW "BILLY GREEN, THE SCOUT," LEADING 700 CANADIANS,  
ROUTED 4000 AMERICANS AT STONEY CREEK

By A. Langsford Robinson

Historical societies throughout the Dominion are rendering a valuable public service, national in its scope and character, in the gathering of data relating to Canadian history. Largely as a result of these organizations there has been a revival of interest in recent years in historical incidents, many of which have been brought to light through investigation and research. Among these is the story of "Billy Green, the Scout," which constitutes an interesting chapter in the War of 1812.

SOBER history tells the story of the victory of 700 Canadian Militia over 4,000 Americans when the fortunes of Canada swung in the balance at Stoney Creek. But history—with her passion for solid fact—has made no mention of "Billy Green, the Scout." For Billy is a fact unverified; his story is half legendary; in fragments passed from mouth to mouth through a hundred years, too fragmentary for history to adopt, but well enough substantiated to be perfectly credible. The legend tells how Billy Green turned the scale in favor of the 700. This is what befell.

In 1813 there dwelt in Saltfleet Township, near where the city of Hamilton now stands and just south of Stoney Creek, a young man of 19 or 20 years of age. His father was old Adam Green, the U. E. Loyalist, who had migrated from New Jersey and whose pioneer homestead was pitched on "the Cliff" which is now Hamilton Mountain. The young man, Billy Green, was something of a character. The neighbors called him unsociable for he shunned the companionship of other lads and loved best to ramble through the woods alone. Nowadays he might

have degenerated into a "nature fakir," and have written neatly illustrated little books on natural history. As it was, he loved and studied the animals with which the woods were filled—watching them, imitating them, and hunting them till he was almost as free of the forest as they were.

Many were the stories told of his wonderful knowledge of the forest and its animals. Free from any sense of danger he risked hairbreadth adventures in the woods he loved, but his great strength and agility and his knowledge of woodcraft always swung him into safety where other youths of the township would have met certain death.

He could imitate to perfection the cries and noises of all the wild things. He could run on all fours along the ground, with great speed, like his friends the bears, and he was as at home in the trees as the squirrels, his adopted cousins. He could run up a tree like a wildcat and swing and jump from tree to tree and limb to limb as well as any monkey. In short, his abilities made him the talk of the whole countryside, and he was the recognized authority on all matters of woodcraft and the wild





Guard of honor, 13th Regiment, to Earl Grey on his presenting grounds at Stony Creek to the public in 1911.

life of the forest. Billy Green was an ideal scout.

Now it happened that about the 3rd of June, 1813, Billy Green and his brother were away from home, some errand having taken them down in the neighborhood of Grimsby. The

whole country was on tremulous tip-toe in expectation of the invading Yankees and though, of course, their presence in that part of Ontario was known, no one knew exactly where and when they might be expected to appear. At Grimsby, Billy Green and his brother saw them. "There they was," Billy used to say afterwards as he told the story in the village store. "There they was. They came with blast of trumpet, a-footin' their horns, all talkin' and boastin' of

how they were goin' to lick the British."

That was what, in modern slang, got Billy's goat—he longed to see these boasts made of no avail. But first there was his duty to his own family and friends to consider and the Green

boys did not stop long to peer at the invaders from their hiding place among the trees, but set off hot-foot through the woods to warn the neighborhood.

The lads had a sister married to one Corman, a settler from Kentucky. They lived below the mountain at—the legend has plenty of detailed fact behind it—"Lot 22, 3rd concession of Saltfleet," and when the boys had spread their news among the families upon the higher slopes of "the Cliff" Billy sped down a mountain path to warn his sister and her husband.



Billy Green, the Scout.

So far the facts of the story are unquestionable and are matters of well authenticated family history. They are known to and related by Mr. J. H. Smith, School Inspector of the County of Wentworth, and to Mr. John Green, a grandson of the hero of the legend. The rest of the story is almost as well substantiated.

Down the mountain-side sped Billy to arrive, alas! too late. His sister's face was troubled as she came from the trim log cabin to meet him. Her Isaac, while

brother-in-law hurrying homewards through the woods, alone and free. Cautiously, he attracted his attention and, drawing him into the concealment of a thick clump of cedars, eagerly enquired the reason of his release.

These were Corman's adventures. He had just dropped a post into its hole and was preparing to centre it when a squad of American soldiers suddenly appeared round the turn of the road and, with levelled muskets, bade him stand.

"Are there any Indians round here?"



Overlooking the battle field of Stony Creek, showing the Gage Homestead, where the American generals were quartered.

peacefully setting posts for a gate at the end of the lane, had been seized by a small party of Americans and hurried off in the direction of the shore of Lake Ontario. What might happen to him she was almost afraid to speculate. It took Billy Green some time to comfort and reassure his sister, but at last, secure in his knowledge of the forest and his brotherhood with its inhabitants, he started out with the dangerous object of penetrating the American lines and learning, if possible, his brother-in-law's fate.

He had passed some of the American outposts and pickets and was nearing the main camp on the shores of Stony Creek when, to his surprise, he saw his

questioned the officer in command of the squad.

"Yes," replied Corman, "there are some Indians."

"Well then, how strong are they? That is, how many are there?"

"Oh! quite a few." Corman was getting rather nettled at the brusqueness of his captors, and when the officer continued the cross examination and asked, "How near are they?" the prisoner lost his temper and angrily replied, "Well, I don't see as it's any of your business anyway."

This was more than military authority could stand and Corman was promptly bound and hurried—probably with the sharp point of a bayonet to



One of the striking monuments commemorating the Canadian victory at Stony Creek.

hasten his footsteps—down to the American camp. At the camp a long lean officer before whom he was brought treated him with scant ceremony and poor Corman was beginning to feel that a hard time lay before him, till, by the merest chance, he overheard the scornful one make some casual remark about "old Kentuck" to a brother officer.

This was Corman's cue. Leaning forward he hailed the officer as a fellow Kentuckian and further strengthened his claims to clemency by stating the fact that he was a cousin to General Harrison who was in command of the American "Army of the West" which was operating near Detroit.

In an instant Corman's hands were released, and the two Kentuckians fell into a long chat over old scenes and faces; Corman told the story of his long journey to favored Canada, his marriage with a Canadian girl, and the prosperity he had won for himself in his new home.

The upshot of this lucky meeting was the release of Corman on a sort of parole. He was to go to his home and to stay there as a non-combatant—a parole which he faithfully kept—and he was duly furnished with the pass-word

which would enable him to pass the American pickets.

All this was related to Billy Green as they sat concealed in the cedars, and as matters were on such a satisfactory footing the lad abandoned the woods and returned openly with his brother-in-law, duly giving the countersign when any attempt was made to stop them. At the homestead they were wel-

comed with a joy which it is easy to imagine, since nearly the whole day poor Mrs. Corman had been wild with anxiety as to her husband's fate.

Like a good housewife she set to work to express her satisfaction at his safety in a practical manner and soon the adventures were busy making up for the excitement of the day by attacking a good hot supper. After supper, naturally there was much to talk about and discuss, but Billy Green took no part in the discussion. He sat still, his feet on the table, his chair tilted back, absently staring into space, reviewing and ordering the crowded events of the day. He listened intently to all Corman related—and you may be sure he spared no detail—of what he had seen and learned in the American lines. Billy absorbed it all; he listened well—too well, as it proved, for the welfare of the American camp.

The sun was just setting as Billy brought his feet from the table to the floor, and, rising suddenly, reached for his hat and prepared to go. Indeed Corman was on the point of urging him to make his way home—“For boy,” he said, “I do not deem it safe for you, a Canadian born, to be seen about here

while the Americans are camped so near.”

So at sunset Billy started up the cliff path towards his home. He soon found that the journey was a more difficult matter than it had been earlier in the day, for by this time the whole country surrounding the great camp of 4,000 men had been strongly picketed, and the woods swarmed with scouting parties. He knew the countersign and used it successfully

to pass the sentries posted near the Corman's farm, but even with this knowledge he was liable to be detained and questioned, and in his after supper meditations Billy had come to a resolution which made delay a thing to be avoided at all costs. So as darkness gathered he slipped from the path into the thick woods and prepared to trust to his own subtlety to escape the soldiers.

He crawled like a snake within a few yards of an outpost and, when a leaf rustled and the Yankee peered alertly into the underbrush he chattered like a squirrel to reassure them. Half a dozen times his ability to imitate the wild things of the woods stood him in good stead. He had had the forethought—though this may be legendary embroidery—to bring an old bear skin from the Corman's, and with this fastened on his shoulders he ran on all fours through the bush looking, in the half dark, like a bear or a large dog.

Being a bear, indeed, nearly cost him his life for he peered within a few feet of one soldier who was also a keen sportsman.

"Wall!" Billy overheard him say, "There are certain sure some game in



Monument to heroes at Stony Creek, which is being erected by the Westworth Ladies' Historical Society.

these here woods. That was a b'ar. I'd a mind to shoot the critter he came that close—but the noise would ha' waked the whole camp."

"Yes sire," growled the deep bass of his comrade, "I wouldn't do. They'd be thinkin' the British was upon us."

And so from bush to bush, thicker to thicker, crawling like a snake, running like a bear, climbing like a squirrel Billy made his way up the cliff. Every run was carefully calculated, a sixth sense seemed to tell the boy when to lurk hidden and when to make a forward dash, and after eluding a score of watchful sentries Billy arrived safely at his father's farm.

Billy had had a long and exciting day and, but for his early woodland training, he might have been on the point of collapse. But there was much yet to be done and Billy hardly paused a moment in the old farm kitchen but made straight for the stable. Here the family gathered round him and as he saddled a horse, he gave them a slight outline of the momentous events of the day. "But what's your hurry?" said his brother who was holding the lantern and who was somewhat bewildered by

the rush of word and action, "Where're ye off to now, Billy?"

"To the British Army!" shouted the lad as he pulled the girth tight and leapt into the saddle, and with a hasty "Good-bye!" he vanished from the pale circle of lantern light and clattered at a gallop down the rough farm road.

Down the hush path by Mount Albion he galloped in the darkness, round by Albion Mills and so to a point on Hamilton Mountain near the top of what is now James Street Road. Here he dismounted, for of the exact whereabouts of the British Camp he was unaware, but from the top of a tall tree he could see the flicker of camp-fires in the distance. The camp—it was that of the advanced guard—was pitched on the cliff overlooking Macassa—now Hamilton—Bay on ground which to this day is called Harvey Park. Leaving the horse tied to a tree he dived into a narrow Indian trail—the James Street of to-day—and pushed and stumbled through the heavy underbrush and quaking swamps which covered the site of the present city of Hamilton till he was stopped by the "Halt!" of a British sentry.

His errand explained, he was quickly taken before Col. Harvey, the officer commanding the advanced guard of the forces under General Vincent, and breathlessly proceeded to relate all that he knew of the Americans and their encampment at Stoney Creek. Col. Harvey at first was utterly incredulous. Green's statements were at variance with all the information upon which the British general was acting; for it was believed that the Americans were still occupying Fort George instead of thus suddenly taking the offensive and advancing so rapidly against the British forces. Moreover, the rapidity and secrecy of their advance made it evident that they contemplated a sudden and unexpected assault.

But Green was so much in earnest and told such a moving tale of his difficulties in reaching the British army that Col. Harvey was at last convinced, and

being so, saw at once the advisability of checkingmate the Americans by a bold counter attack.

For the British army was in poor condition to withstand the attack of any considerable force. True, it was well entrenched in its position at Carroll's Point on Burlington Heights—as traces of the old defenses still testify. But it numbered hardly 1,500 men of all ranks, besides a few Indians; the men were all in rags and many of them were barefooted; they had only 40 or 50 tents in the whole camp; food was running short and worst of all, there were but 70 rounds of ammunition per man.

And against them, Billy estimated, there would be between three and four thousand Americans—3,550 as it actually happened, made up of 2,900 infantry, 400 artillery and 250 cavalry—all well equipped with tents, stores and ammunition.

Still, an attack on such an army seemed almost more desperate than the defence. There was a chance that a real surprise—but then the woods—the darkness—to act on the offensive so suddenly would be very difficult. The Colonel reflected.

"Can you guide us?" he said suddenly to Billy who had been watching anxiously the officer's troubled meditations. "Guide you?" replied Green, "Why, there's not a bush or tree in the district that I don't know. I'll guide you safely. I'll lead you—in the name of the King, I will."

There was a hasty consultation between the officers and so important was Billy's news that it was decided to risk all and make a night attack at once. Col. Harvey—made acting Adjutant General for the occasion—was to march his advanced guard to the attack under Billy Green's guidance. Gen. Vincent, with the main body was to remain in reserve and was to move to Harvey's support, if necessary, at daylight.

At eleven-thirty, Harvey's little army started forward with Billy at the acting General's side. It was a tiny force to attack an army of 4,000, an army which

by now, as could be supposed, would be pretty strongly entrenched. All told, Harvey had but 704 men; there were five companies of the 8th King's under Major Ogilvie and five companies of the 49th Canadian Militia under Major Plenderleith. These latter were the famous "Lincolns," settlers from Lincoln County, the "Green Tigers," as the Americans called them, from the ferocity of their attacks and the green facings on their faded and tattered uniforms.

Down the rough track of King Street—the main road then as it remains to-day—the little force marched in silence and caution till called to a halt at a point near Red Hill within a short distance of the sleeping American camp. Here instructions were issued to the officers and Billy Green described to them the dispositions of the sentries and outposts and indicated the most vulnerable points in the hasty defences of the camp. It was now 2.30 in the morning and soon the pale light of the June dawn would awaken the sleeping camp. With redoubled caution the soldiers followed Billy's lead and one by one the enemy's outposts were seized and silenced. Two sentries were found sleeping at their posts, leaning against trees, and indeed, so unexpected was the attack and so well did Billy guide the attackers that even the waking sentries were disposed of without a suspicious sound and the British advanced unopposed to the very edge of the defences whence they could see the cooks already awake getting breakfast for the sleeping troops who were to start at 4 a.m. to surprise the British camp at dawn.

They had a rude awakening. Into the alarmed camp broke a wave of bayonets—the rear ranks of the Canadians adding to the enemy's dismay by filling the morning air with loud whoops and Indian war-cries. Though Harvey had not a single Indian with him this noise had considerable effect for the Americans dreaded the Indians above all things and at the mere thought of them many broke and fled. In fact the sud-

den attack demoralized the Americans utterly and in spite of many gallant rallies and the desperate efforts of the officers to hold their men together few of the 4,000 stayed to fire more than one wild volley at the attackers.

Even their artillery did little damage. A Canadian captain led a gallant charge on the American battery to be killed, with many of his men, by a bursting gun; but his sergeant carried on the charge and turned the guns on their late possessors. The Kentucky cavalry were cut to pieces in their gallant, but ineffective, charge through the British ranks. General Chandler's desperate flanking movement was checked by the 49th and the General himself captured.

All along the line Canadian luck held good and long before there was light enough to show them the smallness of the attacking force, the Americans were in full and panic-stricken retreat.

But all this is history. The histories will tell you of the guns we took—the tents—the stores and ammunition which we so sorely needed. Two Generals, Chandler and Winfar, many officers of lower rank, and 124 men fell into our hands as prisoners; and if Vincent had brought up the main body from Burlington in time for pursuit the whole body of fleeing Americans might have been driven off Canadian soil.

And it was Billy Green's victory. Thereafter he bore as a title of honor the name of "Billy Green, the Scout." And though he joined the Lincoln County Militia and wore the white uniform which his grandchildren still treasure, it was his great exploit as a civilian that gave lustre to his name.

When you visit Hamilton and the motor turns out of King Street and climbs Red Hill; when you see the new monument and the little relics in the American headquarters—the old Gage Homestead which the Wentworth County Ladies' Historical Society have preserved; spare a thought for "Billy Green, the Scout," and the legend of which he is the hero.

# The Pulling Force in Business

THE WAY TO GET BUSINESS IS TO GO AFTER IT—THAT IS  
THE WORK OF THE SALES DEPARTMENT—THE  
MODERN METHOD MEANS SUCCESS

By Walter H. Cottingham

The writer of this article is a Canadian, who as a boy got some business training in his native village. From there he went to Montreal, and in time became manager in that city of a branch of a United States paint concern. He developed into an unusually brilliant salesman and organizer, doing so well that he was offered the general sales management in the States. A few years ago he became general manager, and more recently president of the entire business, with its factories in Canada, the United States and Europe, and employing a very large sales force. In this article Mr. Cottingham tells how a great selling force is organized and handled.

THE way to get business is to go after it. To go after it is the work of the sales department, and if properly organized and efficiently managed, they will get it.

Selling is the great thing in almost every business. Getting rid of the product in volume at a profit is the object, and at the same time the test, of a successful business man or a successful business organization. This world in which we live is a great marketplace, and all the people in it are traders—buyers and sellers in the market-place. The strife of competition is among the sellers; and the captains of industry are always master traders and master salesmen.

It's this broad view of the world as a marketplace that makes the business career, with its increasing and limitless possibilities, so attractive to the ambitious man. Men like Morgan, Carnegie, Rockefeller and Hill have achieved their great success largely through their ability to create a de-

mand for their products. They sell things in a big way. They possess imagination, vision and force, and foresee the wants of the people, and are the master salesmen in the world's marketplace.

It's easier to get men to make goods than to get men to sell them. It's easier to get men to make the accounting department, the purchasing department, or even the financial department, than it is to find men to successfully handle the sales department. The head of the house ought to be a salesman. The head of the country ought to be a salesman, with his eyes on the markets of the world at home and abroad; for successful selling means successful leadership. When the head of the house and the head of the country are salesmen, business is good, and the country and the house are prosperous.

The great factor in selling is the human factor, and not the things we sell. The things must be right, of

course; but it's people who buy and use the things, and therefore it's people whom we must interest and deal with in getting rid of things. Too many business men are paying too much attention to the things they make, and not enough attention to the people who make them, the people who sell them, and the people who use them. It's not things that make life—it's people. It's not things that make business, it's people—people with red blood in their veins, men and women with hearts and feelings and aims and ambitions—men and women susceptible to encouragement and sympathy and training and discipline.

The sales department must recognize this difference between things and people. They must understand the importance of the human factor. It touches all sides of the sales proposition. The efficient sales manager is essentially a manager of men—not things. He must know his line, it is true; but, far more important, he should know his people—the staff who sell his products, the customers who buy his products, and the consumers who use his products. It is the character of his work with these three classes—the staff, the customers and the consumers, that determines his capacity and his success. The staff must be made efficient, loyal and enthusiastic; the customers must be made permanent and friendly, and the consumers must be made satisfied users and enthusiastic supporters.

The great thing is to link up these three live factors in the selling proposition, so that all work in harmony and close co-operation for the advancement of the house and its products, and—quite as important, for the advancement of each other. First in importance is the staff—the inside staff and the outside staff—the house force and the field force. They must all be imbued with selling spirit. They should all be salesmen from the office boy and telephone operator to chief clerk and manager. They must work with each other, and not against each other. Their united aim is to create and in-

crease demand, not merely to supply demand—that is the business of the order department.

Some men who call themselves sales managers and some men who call themselves salesmen, are simply order-takers. Goods require no sales department. All that is necessary in such a case is an order department. The master salesmen is one who can create business, new business, or a demand for some new article of business. His is the genius of the inventor and the discoverer.

The development of a successful selling organization is a great achievement. It is not accomplished in a day or a year or five years. It is a process of careful selection, patient training, firm but affable discipline, and persistent, enthusiastic effort. Training a selling force is like training a fighting force. It demands leadership of a high order, and practice, practice, practice, and drilling, drilling, drilling—in the barracks or the house, and in the field or on the territory. Napoleon and Cromwell were great military leaders because they knew how to drill and train their men, how to inspire them, and how to reward them. They worked them hard, but they encouraged and rewarded them when they did well; and every man knew he would be judged solely on his merits, and that the highest places were open to his courage, energy and ability. And let me add, these great leaders themselves set the pace. The same treatment of a selling force will produce the same results—victories of peace, instead of war. Training such a force involves organization and system. The head of the organization should be the biggest man in the business. He should be a master of system and a leader of men.

The head of the sales department should be responsible not only for sales, but for advertising, for traffic, and for the distribution of the product. He should direct all that relates to the selling and handling of the goods after they are delivered by the manufacturing department to the shipping depart-

ment. Only in this way can he thoroughly and effectively influence the service to the customers, which plays such an important part in building up a successful sales organization. All advertising is selling; and, therefore, in order to insure the right kind of co-operation, the advertising department should be a branch of the sales department, which necessitates the head of the sales department being a competent judge of advertising, as well as selling. The distribution of the product, whether direct or through branch houses, involves service to the customers; therefore, the traffic department, which directs the movement of the goods, and the branch houses that handle them, should come under the management of the head of the sales department. In no other way can the most efficient service be well secured. The sales department should have an equal or controlling supervision in the credit and collection departments for the same reason that it affects so intimately, and, in the case of these departments, sensitively, the service to the customers.

The efficiency of a sales department depends altogether on the character of the service rendered the customer. This involves quality, value, shipments, correspondence, advertising, and above all, the ability to create a demand. Selling the goods is only the beginning of contact with dealer or consumer. We must make his interests ours so long as we do business with him. The service should be as far as possible personal. Make your customers feel they are dealing with men—men who are interested in their welfare and success, rather than with a corporation, which is usually considered soulless. If the service is personal, they'll feel that way. The danger in corporate management is in its being impersonal and machine-like. The "personal touch" counts in business as it does in all things relating to human intercourse.

Creating a demand is the sales department's greatest achievement. The time has gone by when goods, no mat-

ter how excellent, will sell themselves. The quality may be the highest or the price the lowest, but that alone will not sell them. They must be made known to the consumers in a way that the consumers demand them and will not be satisfied with substitutes. Advertising backed by quality and service is the great agency for creating demand. The advertising must reach the consumer and secure the whole-hearted co-operation of the dealer. Advertising that forces the dealer unwillingly to handle the product cannot be wholly or permanently successful. The dealer's good-will and enthusiasm is as necessary as the consumer's in any plan involving his aid in distributing the product. The dealer is one of the important links in the chain of distribution, and should be considered in all selling plans as a live part of your organization. Make it pay him by providing for a fair profit and helping him move the goods in large volume, and thus gain his co-operation and add his staff to your own selling force.

With regard to the relations of the sales department and the manufacturing department, they should be very close and heartily co-operative. I have found a committee composed of the heads of the sales department, the advertising department and the manufacturing department, to deal with matters all are interested in, is the best means of getting intelligent and prompt action. It is the business of the sales department to make their requirements and wants known to the manufacturing department. The manufacturing department should be operated for the benefit of the factory. The sales department serves the customer, and the factory serves the sales department.

And now comes the important matter of working the territory and distributing the products. In the case of a national concern, the country should be divided into districts, with headquarters at the great distributing centres. If the country is to be worked closely, the districts should be further divided into divisions; these division points report-

ing to the district headquarters, and all worked as one unit in the general scheme of distribution.

The district manager should have entire charge of the business, sales, advertising, shipping, accounts, etc., reporting to the general manager of sales and distribution for the entire company. The division sales managers should be free to devote all of their time to selling the goods in their division, reporting to the district manager on sales only. The sales division should not be larger than one sales manager can handle personally. So much depends upon the close and personal co-operation of the manager with the salesman. When the sales force becomes larger than one man can handle, a new division should be made, with a view to working the territory more closely, and always intimately.

The districts having been divided into divisions, the divisions are divided into territories, and a traveling representative is assigned to each territory, all districts, divisions and territories being carefully laid out with a view to the quickest and most economical traveling and distribution of the products. Every town in every territory, and every customer and possible customer in every town, should be listed and worked by the representative and the sales department. No man, guilty or not guilty, should be allowed to escape the vigilance of the sales manager or the salesman. Don't stop here. List your consumers and possible consumers, and all who can influence consumption of your products. Satisfied users can be made enthusiastic and valuable supporters. Keep in touch with them all, and tie them and their influence to your organization. Make them feel you are interested in them, and they will become interested in you. Your customers and consumers, properly handled can be made an important and intimate part of your organization.

Each traveling representative should be given periodically a complete territorial list, with all present and prospective trade listed. He should report on

this trade in detail as he visits it, on a specially prepared town report form. The information thus sent in should be carefully and frequently used by the sales department in correspondence and in following up the trade between the visits of the salesmen. Prospective trade, as well as customers, should be kept in touch with in this way. All the details in connection with customers and prospective customers or consumers should be recorded on a card system, so that you have a live record of the work on each territory constantly before the sales manager.

The ideal salesman is more than a salesman. He should be a representative, not only in name, but in fact, for when he enters the customer's store he represents not only the sales department, but also the advertising department, the manufacturing department, the financial department, the accounting department and the executive department. He represents the house. He should know these departments well enough to carry out the policy governing them and to co-operate with the house and the customer in all that relates to them. Selling, while a very important part of his work, is not all of it. Only a systematic and continuous method of training will fit him for the position of an all-round representative.

Now, with regard to the training. There should be some systematic method of teaching, and in addition to oral instruction I strongly recommend the use of a manual or handbook, which should contain the fullest information of the company's goods, its policy and methods, and useful information of all kinds concerning the conduct of the business. It should be of such a character that it will prove helpful to the salesman in meeting successfully the difficulties and obstacles that are sure to confront him in his daily work.

I believe in the publication of a monthly paper or magazine for the staff, provided it contains instructive and interesting material. It is a good means of keeping up the interest in the organization as a whole, and of giving



recognition of good work done by any member of the staff or any department of the organization. It should be inspiring as well as instructive, and this is something not easily accomplished.

Frequent bulletins containing information and encouraging news of the business help to keep up the interest of the men in the field, and can be made helpful in an educational way.

Special campaigns stir up new interest and new business, and properly handled can be made really productive. Properly used, all these things can be made effective in training, but nothing equals the personal work of the manager in meetings, in the factory and on the road; here is where the personality, example and leadership of the man counts for more than all else.

When you have fully instructed your men, then comes the important problem of handling them, which means as much. The problem to my mind is not how to get the most out of them, but how to get the *best* out of them.

While the salesman should be the manager of his territory, he should be under the close supervision of his salesmanager, who should direct his movements and be in daily touch with him. Orders are expected, but much more, the daily report should give intimate information of the customer, what he is doing, and what he is not doing, suggestions for helping him increase the business, information about the town and new prospects. The information should be live material, and not useless dead wood. The correspondence should be direct, brief and encouraging. Show the salesman you want to and can help him, and you'll get his co-operation; but don't harass him with faultfinding, nagging letters. His work is not always easy, and often done under discouraging conditions. Give him a hand, not by "jolly"ing him, but by sincere, friendly and effective co-operation.

I am a strong believer in competitions among the members of the staff, and between the branch houses and different departments. Competition inside the

business as well as outside, is stimulating. Anything that will stir us up to special efforts and make us strive to make the most of ourselves is good for us as individuals and good for the business. I believe every man likes to win, and it's a good thing to encourage and develop that kind of spirit. Competitions, too, usually bring the best men to the front, and in this way you discover where the best talent lies. The competitions also afford an opportunity to reward the men who produce special results or make exceptional records. The essential thing in any competition is that it shall be fair to all who compete. Make sure that only the best men can win. It's Top-Notchers we are looking for and most men have some top-notch possibilities in them—a great thing is to provide a chance for those qualities to develop. The competition should include more than sales. It should include all that makes for the successful all-around representative.

Promotions wherever possible should be made from the ranks, and nothing but merit should count in making a choice. The theory of "blood being thicker than water"—that money or family connections overtop ability and loyal persevering effort, has undermined many a vigorous organization. Brains, industry and character should be the test for promotion—and nothing else. Brains and industry mix better in the formula for efficiency than blue blood and social position. Never disregard faithful long-time service. Always take care of men who have done good work when time or misfortune overtake them. You want aggressiveness in your organization always, but temper it with consideration for those who have done their part well. There should always be a useful place for them, and if not, one should be found.

Aggressiveness you should always have. The fighting spirit should be the dominating spirit in the sales department. The spirit to win for the house, for the goods, for the customer, and for ourselves should permeate the

whole organization. Pride in the institution, in its products, in its management and its customers is what makes enthusiastic and successful fighters. How are we going to get this vital and priceless force injected into the organization? You can't inject it. Please mark that carefully. It is something that develops from the inside, and not from the outside. It is the outgrowth of merit, fairness, encouragement, sincerity and character. Unless your management, your house and your products possess merit and deserve loyalty and faithfulness, nothing you can do will produce these things. You may have pretended loyalty and mock enthusiasm, but not the genuine. Enthusiasm and loyalty are things that cannot be forced. Therefore, see to it that your products are exactly what you represent them to be; that your methods and policy are fair and liberal alike to the staff, the customer and the consumer. On the walls of my office is a motto of my own making that I keep constantly before me: "Merit begets confidence, confidence begets enthusiasm, and enthusiasm conquers the world." If your proposition has merit, you can't help but have confidence in it; and if you have confidence and some

imagination, you can't help but become enthusiastic; and enthusiasm backed by merit and confidence, puts the kind of energy into us that enables us to go out and conquer, let the opposition be what it may; and more than that, it gives a zest and enjoyment to our work that makes the effort worth while.

To sum up, the sales department is the lifeblood of the business. It is the feeder for all the other departments, and should set the pace for the entire organization. There are other assets of a business than those that appear on the balance sheet. In an efficient selling and distributing organization penetrating all sections of the country creating and supplying demand lies one of the greatest forces and one of the most valuable assets of any business. Just as a strong army and navy makes a nation secure from invasion, so a strong selling and distributing force makes safe the house from the keenest competition. It is a force that is more desirable and more potent than any monopoly—a force that commands admiration as well as support. The selling force is the compelling force and the propelling force. It compels trade and propels the business.

## Cheapening Life

The worst investment that one can make is that which tends to cheapen life. No man can rise higher than his estimate of himself. He will never pass for more than the value he places upon himself. If he regards himself as a cheap man—and he does when he seeks low associates, when he loses his pride in his standing in the community—he is deteriorating. He should resolve at the very outset of life to place a very high estimate upon himself. He should expect a great deal of himself. He should refuse to have anything to do with that which would cheapen or lessen his standing among his fellow-men. There is only one standing by which we are estimated by others, and that is by our conduct. If people see that we are floating the flag which indicates low flying ideals, if others see us in questionable places, seeking pleasures in questionable resorts, if they see us cheapen ourselves in any direction, they tag and estimate us accordingly.

## Review of Reviews

BEING A SYNOPSIS OF THE LEADING ARTICLES APPEARING IN THE BEST CURRENT MAGAZINES OF THE WORLD

### How Germany Eliminates Waste

IN THE *Twentieth Century Magazine* L. M. Powers is running an interesting series on "The Superior Civilization of Germany," a second article of which deals with "How Germany Eliminates Waste." The lesson which Germany is teaching the World, we are told, is that it pays to be good; that the nation that best cares for the human product is bound to out-distance the nations that think first of products. The writer holds that England, for years shamefully neglected her human factors, found she was being pushed to the wall by the more efficient Germans, and has been obliged within the past year to adopt a system of social insurance and labor exchanges, organized substantially and first developed in Germany by which the saving in human waste there has been enormous.

"Practically everybody in Germany," the writer proceeds, "now, is insured against every possible contingency. It is expensive but it is also immensely profitable. It reduces the waste from pauperism, accidents, sickness, and crime, and as a national asset, makes the German unwilling to leave the fatherland, and augments a patriotism for some time unequalled in any other great nation. By the operation of the insurance laws, two billion dollars have been distributed to ninety-five million aged, sick, or injured workers.

Then consider what has been accomplished in the prevention of sickness and the prolongation of life. In 1870, Germany had a population of 44,250,000. In 1908, with a population of 19,000,000 more, there were actually 32,

000 less deaths. From 1871 to 1880, the death rate was twenty-nine to the thousand of population. In 1908 it was only nineteen, a reduction of one-third in forty years. No other nation has a record in any way comparable to that.

There is no other country in the world where human life is wasted as it is in the United States. There is waste from lack of adequate food and health laws. There are more drug shops in the United States than there are beer shops in Germany, and they are more harmful. We have four times as many doctors in proportion to population as they have in Germany, and they do not do as much to keep us well. Our national loss from preventable sickness is undoubtedly four times greater than that of Germany, while we have three times as many deaths and injuries by accidents. All this results in still further waste from pauperism and crime.

In Germany, everything that education and law can do to prevent accidents is done. In Berlin, in a large hall built for the purpose, there is a permanent exhibition of accident-preventing devices in all kinds of industries. The Germans consider it better economy to preserve the legs, fingers and eyes of the working people than to try to remedy defects they have been allowed to incur. The nation has learned, what does not seem quite obvious yet to us, that a man with one hand cannot do as much as he can with two, and that dead men can do nothing.

I was not able to discover in all the time I was in Germany how one could

commit suicide on a German railway. I suppose it can be, and sometimes is, done, but it must require considerable ingenuity to accomplish the deed. If a German makes up his mind to drink himself to death, no doubt he will succeed in time, but he will certainly have a much longer and pleasanter journey than when he comes to the same resolution in this country. Wines and beers are good and pure, and in this, again, is a great economic saving. There are many more teetotallers in proportion to population in the United States than in Germany, yet statistics show that twice as many deaths are caused by drink and three times as many people are driven insane by drink here as there.

Everything is done that can be done to eliminate waste in young life. The cigarette-smoking gangs of corner-loafers, so characteristic of our cities, are unknown in Germany. Young people are kept busy, by co-operation between workshop and school, usually up to the age of eighteen. Amusements are made educative in strictly supervised, and in all large places, subsidized, theatres. Vicious amusements are both demoralizing and wasteful of vitality and brain. In no other country is recreation of so high an order, so cheaply and easily available as in Germany.

It was learned that forty per cent. of the absences of children from school was due to toothache and other preventable dental diseases. It was found that children with defective teeth were, by the age of eighteen, from six to eight months behind other children, and an effort to eliminate this waste has led, in most German cities, to municipal care of the children's teeth. In Strassburg, the per capita cost of this cure is twelve cents. When a dollar or so expended on a child results in better health for it, more comfort, and six months' longer earning capacity, it would seem to be a good investment. That children could not study on empty stomachs also became apparent. Accordingly, in many places the children are now given one or more meals. Breakfast requires pur-

chases to furnish children with knapsacks in which to carry their books. The reason for this was the discovery that children were growing lopsided from carrying their school paraphernalia under their arms.

Germany eliminates an enormous amount of human waste by her well-organized labor exchanges. There are now over seven hundred, covering practically the whole empire and through which 1,500,000 positions are filled each year. The cost of knowing at once where, in the empire, work can be had, and securing more than a million and a quarter jobs for out-of-work men and women, is a little less than fifty cents for each position filled. Think of the waste had these people been obliged unintelligently to wander about seeking work!

By some unusual but wise methods in dealing with delinquents, Germany reveals more of her incomparable thrift. If it can be shown that a man is squandering his earnings in drink or gambling or any misuse of his wages that results in suffering to his family, he can be taken into court, declared a minor, and placed under guardianship. After that, he works and his guardian sees that his family has the benefit of his wages. Men are sometimes compelled to work out a jail sentence on the installment plan. They are permitted to work throughout the week, up to Saturday noon, when they are locked up until Monday. Here are two savings—the money that would probably be wasted in the hours of leisure, and the labor that would be lost if locked up during working hours.

There is also a wise and humane use made, in Germany, of the saving capacity of the partially down-and-out. In some cities, old women who are in the almshouses, or who would be there but for this work, are given a pair of shears and a watering pot and set to work watering flowers in public parks or along the grass-bordered car lines which circle so many cities, or they trim the edges of grass plots where the lawn-

mowers fail to do their work. They earn enough in this way to take care of themselves, and besides help give German cities that special touch which makes them so attractive.

Men, who in this country would be loafing on the street corners or advertising some corn doctor with a fore and aft sign, are licensed as *Dienstmen*. A *Dienstman* is a kind of general utility man. You can hire him for a small sum to go on errands, carry parcels or luggage, or do almost anything you wish done. His earnings are small, but he earns something; he is useful to the community, and his license is evidence that he can be trusted.

There are numberless small devices and conveniences that all conserve health, time, and energy. Public comfort stations are sufficiently and conveniently located in all cities. These save time and health. The almost total lack of such in American cities would seem to be from design and in the interests of the saloons. On street signs are often the numbers inclusive of the houses in that block—a small matter, but another time-saver. In the post-offices now, they not only have special delivery, but at a cost of from five to twelve cents, letters are called for in answer to personal, telephone, or written requests and delivered without any delay. Why not?

In some cities, if you wish to move you can go to the police station, register

your name at the cost of twenty-five cents, and secure a list of all the vacant houses in that section of the city. If you find what you want, the police will notify the landlord. At the request of the prospective tenant, an inspector from the Building Department will visit the house and tell the landlord what repairs, if any, are needed. If the landlord declines to make the repairs, the inspector has the right to condemn the property until they are made. The directory of a city like Dresden contains not only the names of the inhabitants, but all the essential facts concerning the people, the houses, their owners, and where on the tax register you may learn the value of any piece of property. In a word, a city directory is a directory, not a list of names.

Undoubtedly, Germany's triumph is due more to knowledge than to anything else. In comparison with other countries, she shows a better utilization of the raw materials of earth, a greater and more widely diffused technical skill, a higher level of intelligence, and a superior collective wisdom at work on world problems. We have the longest sea-coast of any nation in the world; yet when we get serious in trying to develop our second most important port, we have to send to Germany, a nation almost without sea-coast, for an expert harbor builder.

### Lloyd George the Man

AN intimate study of Lloyd George, the British Chancellor of the Exchequer, is presented in *Pearson's Magazine* by P. W. Wilson, parliamentary correspondent of *The Daily News*.

Whatever we may think of Mr. Lloyd George's opinions and achievements, writes Mr. Wilson, we shall all admit that he has been already a maker of history. He may, for all we know, rise higher yet. And the recollections

which here follow, written as they are while the memory is fresh, will, I am sure, be received, even by Mr. Lloyd George's fiercest critics, as a real and authentic picture, derived at close quarters, of the actual man.

It is, of course, well known that Mr. Lloyd George started life without private means. Whether he was right or wrong in his impetuous protests against the South African War, one thing is cer-

tain—his crusades did not assist his practice as a rising solicitor in the city of London. He was here, there, and everywhere, addressing meetings, without fee or reward of any kind, seldom, indeed, receiving a railway fare. On one occasion, when the controversy was at its bitterest, an admirer sent him a cheque for £100, which really there could have been no conceivable harm in his accepting. But back it went, with a polite note, by return of post. No one acquainted with the facts has the slightest doubt that Mr. Lloyd George has sacrificed what would have been wealth as a professional man to the ardours of high politics.

To-day Mr. Lloyd George is what the world would call quite a poor man. A statesman's tenure of office at £5,000 a year is precarious. Such salaries must cover years out in the wilderness as well as years in the promised land. If there have arisen men like Mr. Lloyd George and Mr. Burns, who are not backed by large private means, we need not be surprised to find some slight curtailment of the old lavish political hospitality. It is far more important that public men should live prudently within their incomes than that some extra reception or banquet should be crowded into the already overburdened London season.

If anything, Mr. Lloyd George is too indifferent to questions of money—unjust, in fact, to himself. Sometimes ago, he had some dealings with a publisher, and apparently he never thought of asking for a royalty for his book. But one of his acquaintances took the matter up, bearded the publisher, and secured terms which made the author at least a hundred pounds better off.

Mr. Lloyd George's favorite time for entertaining journalists is breakfast. Morning after morning he would appear at these early banquets, a little haggard after his late sittings over the Budget, but invincibly vivacious and eager to fight again the battles of the evening before. It was only under doctor's orders that he abolished for a time these receptions and took his breakfast more

quietly, but he still keeps in touch with the Press, in which respect again he follows Mr. Chamberlain.

Not long ago, he told me that while he would often evade an inconvenient inquiry, he makes it a rule never to mislead a journalist. The evasion takes various forms, and there are few experiences more delightfully provoking than a long and merry talk over Lord Hugh Cecil when there happens to be in the air a crisis over Germany. Mr. Lloyd George discusses his friends, and even his colleagues, with genial candor, but he does not bear malice, from which vice he is preserved by his amazing enjoyment of human nature—its foibles and absurdities. When he is most annoyed, the storm at once breaks with the first gleam of humor. He will pardon anything that can be made to serve for a laugh.

"This time they did not trouble about your windows," said a visitor to him one morning, after the Suffragettes had been smashing around.

"No," he answered. "And it is a wonder. For they usually attack their friends and leave their enemies alone."

He was somewhat amused by Miss Christabel Pankhurst's argument that the time had come for breaking shop windows, since nobody cared very much about Cabinet Ministers being annoyed.

"That is shrewder than some of the things they say," was his comment. "The public are quite indifferent so long as we are the only people to suffer."

The common idea in fashionable society is that Mr. Lloyd George is not only a wicked politician but also a kind of fearful gorgon who, in private life, turns his acquaintances to stone. The truth is that there never was a gentler and more trustful ruler of public affairs. People call upon him in the full belief that their last moment has come, and they find him modest, anxious for their views, a good listener, and a consummate master of wit. I am merely stating what is a not-unusual fact when I say that Mr. Lloyd George is a great favorite not only with his political opponents in

the House of Commons, and especially with Mr. Balfour, but also with the Court. He is excellent company, and this counts even with the highest in the land.

This personal charm doubtless makes him tenfold more dangerous than a less polished diplomatist; but in estimating the secret of his fascination over men, allowance should be made for the elemental quality of his character—a good heart. He thoroughly enjoys doing a kindness.

At the late King's funeral, every window had a value. Mr. Lloyd George gave his to the humblest folk. You could see him, hurrying about in his gold lace uniform, with apparently only one thought—what would be the best vantage point for an aged schoolmistress, whose eyesight had been impaired by years. That this lady should have the best of positions seemed to be his only cause of anxiety.

### Anchoring a Skyscraper

THOSE persons who are interested in big construction works which call for wonderful feats of engineering are furnished with an abundance of material in Wendell Phillips Dodge's article "Anchoring a Skyscraper," published in the *Strand Magazine*. The "anchoring" of some of the modern structures is in itself a stupendous undertaking, and as Mr. Dodge describes it, is replete with features of interest.

In starting a foundation contract for a skyscraper the first thing that the contractor does is to see that the walls of the surrounding buildings are in good condition, for, if necessary, they must be shored and braced, for even a pneumatic caisson may disturb the soil while being sunk. The equipment is then brought to the site and made ready for work. This includes installing the air-compressors and connecting them with lines of air-pipes, which are laid at con-

venient places over the lot, so that they in turn may be connected by flexible hose to the caissons, and thus deliver the air supply to them. The derricks, which must be strong enough to lift the twenty-ton caissons into place, must be set up in such places that they will cover the greatest area and yet not be in the way of the work as it progresses. Heavy platforms must be built, so that trucks can be driven within the reach of the derricks to receive the material as it is excavated from the caissons. Room must be made for storing cement and other material. Small shops must be built for pipe-fitting work, blacksmithing, and general repairs. When this and much more has been done, the air-chamber section of the first caisson is brought on a heavy truck and driven under one of the derricks, which lifts it off and lowers it to the exact location where it is to be sunk. An additional

section, called a cofferdam, is then put on top of the air-chamber section—the caisson proper—and sometimes a second cofferdam section is put on immediately thereafter. These cofferdams are sometimes like the air-chamber section, except they have no roofs and are of lighter construction. Their object is to confine the concrete, with which they are removed before they reach the ground level, and only the hard concrete filling sinks with the caisson.

The pipe-fitting gang bolts the sections strongly together, puts on the air-shaft and air-locks, fixes in one or more vertical pipes for the air supply, another to carry electric light wires to the working chamber, and also a pipe at the upper end of which is a whistle for giving signals. Carpenters have meanwhile built a strongly-braced frame around the caisson, to set as a guide while the sinking process takes place. A concrete-mixing machine is started, and the concrete is filled into buckets and hoisted up and then lowered down into the cofferdams and deposited on the roof of the caisson. It is all done in the hop-skip-and-jump quickness of circus hands—boss tentmen—setting up the "big top" and making ready the three rings and other circus "foundations" before the opening of the "big show." When the foundation company breaks ground for the high, higher, highest buildings in the world, it looks for all the world like a circus layout.

The "sand-hogs"—the men who work in compressed air—now go down the shaft to the working-chamber and begin to dig, excavating the earth uniformly all over the area enclosed by the caisson. The material is hoisted in a bucket and dumped into carts, which take it to scows sent out to sea for its final disposal. As the earth is dug out the caisson settles by its weight and that of the concrete which is being continually added above the roof. Soon the ground begins to get wet and then, by opening a valve, a small air-pressure is admitted to the working-chamber, the pressure being just enough to force the water out and

make the sand or clay dry. This process is continued until rock is reached. Of course, the deeper the caisson goes the greater is the pressure of the water trying to force its way into the working-chamber, and this has to be overcome by constantly increasing the air-pressure. For a column of water sixty-eight feet high the air-pressure must be about thirty pounds per square inch above that of the outside air, or forty-five pounds per square inch.

When all the earth has been removed and the rock cleaned off, the next thing is to fill the air-chamber with concrete. This is well rammed in place, the work being done from the edges towards the centre, so that finally the concrete extends, tightly packed, from the rock to the roof, and only a little space is left under the shaft, the space being the smallest that one man can occupy while he empties the last bucket of concrete, and, this done, he goes up the shaft, which is then filled by throwing in concrete from the top.

Let us see now what has been accomplished. Resting on the rock there is a solid mass of concrete, rammed tight against the roof of the air-chamber. Above the roof is another solid block of concrete, extending to a little below the cellar-line. This gives an indestructible pier resting on rock, on the top of which the columns of the building are set. There has recently been adopted an ingenious method by which the caisson roof is removed, so that the concrete is one continuous mass from the rock-bottom to the top. Work on several caissons is carried on at the same time.

It is necessary for the men working in the caisson to be able to communicate quickly with the persons outside, and for this purpose a special pipe, extends from the working-chamber to the top of the caisson shaft, a whistle being fitted to its upper end. There is a valve in the lower end of the pipe, and when opened the compressed air rushes up and blows the whistle as it escapes. The number of blasts indicate such things

as: "More air wanted," "Refuse air-pressure," "Pull up the bucket," etc.

Rearing its graceful outlines high above the surrounding buildings, the tower of the Singer Building—the "Singerhorn," as it has come to be called—at the corner of Broadway and Liberty Street, has become as distinctive a feature of the skyline of New York as the Egyptian pyramids are of the Valley of the River Nile. The first difficulty which presented itself in laying the foundations for the Singer Tower, and possibly the one requiring the great area covered by the thirty caissons compared with the total area of the site, which restricted the space remaining for the hoisting derricks, runways for the delivery of material and removal of waste, the air-compressors, and other machinery used in the work. During the progress of this work of needling up the walls of the original Singer Building, a heavy and ornate structure, at that time more than one hundred and thirty feet high, a daring and unusual feat in building was successfully performed by the contractors, the Foundation Company. It was at first intended to stop the caissons at bed-rock, about twenty feet above bed-rock, but when, later, it was decided to go to bed-rock, one of the caissons had already been completed seven feet below the top of the hard-pan, its air-lock and shaft removed, and the crib filled with concrete. This caisson was extended by the daring feat of tunnelling through the intervening space from the nearest caisson, excavating the hardpan and underlying stratum beneath the fifty feet of caisson overhanging, and filling the cavity below the caisson concrete pier, as well as the tunnel, with concrete taken through the tunnel from the adjoining caisson, which, of course, required time and care, for if the entire caisson had been undermined at one time there might have been danger of the great weight of the fifty feet of concrete pier above breaking loose. This feat was successfully accomplished by running a small drift tunnel, five feet high by four feet

wide, to the farthest end of the caisson above and then excavating vertically downward to bed-rock, fifteen feet farther, one section at a time, and filling each section with concrete from the bed-rock up to the caisson above before the next section was excavated. It was the first and only time that a pneumatic caisson has been undermined.

Anchoring a skyscraper is just what was done in the case of the Singer Tower. Fearing that the wind-pressure exerted against this high tower of steel and brick might some day cause it to sway and possibly uproot it, the architect and engineers devised a means of securely anchoring the tower to the backbone of the earth. Ten of the concrete piers resting on bed-rock were provided with vertical steel anchorages extending nearly to the bottom, and built into the solid mass of concrete. These were made in such a manner as to utilize the full weight of the pier, estimated maximally at one million, one hundred and fifty thousand pounds, besides the very large indeterminate friction between the sides of the pier and the earth, which was not counted on, and a maximum uplift of five hundred and forty thousand pounds each, due to wind-pressure, to resist an upward reaction of nine hundred and twenty-five thousand pounds, being the maximum calculated static load of the column. The adhesion of the pier concrete to the steel anchor-rods, assumed at fifty pounds per square inch, was utilized in designing the anchorage.

So securely is the Singer Tower anchored that it would be necessary to exert a force sufficient to pull the caissons out of the ground before the stability of the building would be endangered, and as the cutting edge of the caisson was stopped near the top of the hard-pan and the excavation then carried through the hardpan from twenty to thirty feet to rock, and the whole space then filled with the best Portland cement concrete, one must realize that before the caisson pier could be lifted the concrete would have to be broken in two or else the

hardpan eighty feet below the kerb would have to come up! This would practically mean lifting all the hardpan off the rock, and all the quicksand and water on top of the hardpan—results which could occur only in the wildest imagination. Anchored as it is to the very innermost recesses of the earth, the foundations of the Singer Tower would even withstand the severest earthquake the world has ever known.

The total weight of the Singer building, including the Tower, is figured in the vicinity of one hundred and sixty-

five million pounds, and is carried by fifty-four steel columns resting on and securely fastened to the thirty concrete piers extending ninety feet below the kerb to bed-rock.

One hundred and fifty-one thousand five hundred and fifteen bags of cement, weighing ninety pounds each, were used in the foundations. If the concrete made with this cement were all loaded on two-horse trucks, it would make a continuous line of ten thousand one hundred and eighty trucks thirty-eight miles long.

### Stead's Journalistic Triumphs

ONE of the most interesting of recent references to William T. Stead appears in the *American Review of Reviews* from the pen of the editor, Dr. Albert Shaw. Some side lights are thrown on Mr. Stead's journalistic career.

Mr. Stead had begun his journalistic career while still very young. His father was a Congregationalist minister in the north of England, and the family income was too small to give the promising son a university education. But his father was able to give him something far better, for he inspired his boy with great intellectual, moral, and social ideals. A more eager mentality than that of young Stead could not have been found in the whole realm. His reading was well directed and voluminous, his memory was prodigious, and a certain amount of schooling sufficed to give some discipline and direction to his further work of self-education.

As a means of self-support, while still in his teens he entered a business establishment, but constantly wrote for the local press. This writing was so original and strong that it led to his appointment as editor of a daily paper called the *Northern Echo*, published at Darlington, near Newcastle-on-Tyne, when he had scarcely more than entered upon his majority. This was in 1871, and

his work at Darlington continued for nearly ten years. It was during this time that Mr. Gladstone aroused the conscience of England by his attacks upon Lord Beaconsfield's government for its complacent attitude toward Turkey in the matter of the Bulgarian atrocities. Great leaders in church and state rallied about Mr. Gladstone, and no one wrote on behalf of the persecuted Bulgarian Christians more earnestly and brilliantly than W. T. Stead. His work brought him recognition, and he was regarded as a man with a future. His association with the leaders in this work that supported Russia in her campaign against Turkey, and that brought Mr. Gladstone back into power, led to his removal to London.

In 1880, Mr. John Morley, now Lord Morley, became editor of the *Pall Mall Gazette*, and Mr. Stead was invited to become his assistant editor. Mr. Morley, after two or three years, went into Parliament and gave up the editorship. Mr. Stead being appointed to succeed him. Whereupon great things happened in London journalism. Mr. Stead put amazing energy and fertility of resource into his editorial work, and surrounded himself with young men of talent and brilliancy who helped him make the paper the most alert and the

most interesting in England, while also leading its contemporaries in intellectual and literary qualities. It was in those days that Mr. Stead's sensational but well-informed work achieved the reconstruction of the British navy. The *Pall Mall Gazette* led in every field of moral, social, and political progress. It was the apostle of friendship rather than enmity between England and Russia. Its daring exposure of conditions under which young girls were forced into "white slavery" led to the enactment of better laws and to permanent social reforms, although Mr. Stead went to jail for three months on a technical charge resulting from methods used by his assistants to obtain evidence.

Meanwhile Mr. Stead had established interviewing as a feature of London journalism, and he was the most remarkable interviewer yet produced by the modern newspaper. His interest was so intense, his intelligence so alert, and his memory so remarkable, that he could transcribe a conversation in which no notes were taken into an extended report of almost flawless accuracy. As an illustration of his methods at that time a personal incident may be related. The present writer, then a young Western editor, had been spending the greater part of the year of 1888 in England, where his opportunities for observation and study had been due in large part to the friendship of Mr. Bryce—then in Parliament and now ambassador at Washington—and the late Sir Percy Bunting, editor of the *Contemporary Review*. Mr. Bryce and Mr. Bunting had repeatedly advised the young American that he must know Mr. Stead as the most active and potent personality in English journalism, even though, in their opinion, rather self-willed and prone at times to kick over the traces of the Liberal party, of which they were prominent members. An introduction to Mr. Stead led to an immediate invitation to spend the night with him in his suburban home at Wimbledon. The first impression made by the *Pall Mall* editor was that of an

astonishing vitality and energy. Though like a whirlwind in getting the last forms of his afternoon paper to press, he was effective and methodical in spite of the rapidity of his mental and physical movements.

Arriving at Wimbledon in the autumn twilight, Mr. Stead sprang into a swing suspended from the branch of a great tree behind the house, and swung himself violently back and forth till he had somewhat satisfied his need of exercise and fresh air. After dinner he led the visitor into a narration of what had seemed novel and important to an American familiar with the problems of American cities in the new undertakings that were transforming Glasgow. A great deal had been going on in Glasgow with which the rest of the world has now for twenty years been catching up. But at that time nobody had studied it or written anything about it. And the American editor had spent a number of weeks in a very minute study of the great Scotch town.

Two or three days later a package of proofs came in the mail to the American's London lodgings. Mr. Stead had cast the conversation into the form of an interview on the social reforms of the municipality of Glasgow, which was so complete and accurate that only a few corrections were needed. It was so long that it was broken into two parts and appeared in successive numbers of the *Pall Mall Gazette*.

Although editor-in-chief of the paper, Mr. Stead gave his own personal touch to any and every part. He could make brilliant copy more rapidly, perhaps, than anyone else,—certainly than anyone else in England. He would brook no interference from the owners of the paper, and on that account he gave up the editorship at the beginning of the year 1890. He had already formed the conception of the *Review of Reviews*, and brought it out at once as an illustrated monthly having his own opinions but also reviewing the world's more significant discussions and presenting a resume of the more important steps in

the making of contemporary history. It was a successful periodical from the beginning, and Mr. Stead continued to edit it until his death. On the very day of the sinking of the *Titanic* his pen was busily engaged, and he was presumably writing an article to be mailed back for the next number of the *Review* on his arrival in New York.

It was upon Mr. Stead's suggestion, and with his help, that the *American Review of Reviews* was founded by its

present editor in the following year—namely, early in 1891. Although wholly independent of each other in method and appearance, there has been close and unbroken co-operation between Mr. Stead's *English Review* and its American namesake. A great number of invaluable articles from his pen have appeared from time to time in this magazine, written especially to inform American readers about English or European personages and affairs.

### The Problem of the Unemployed

WRITING in *Harper's Magazine*, Robert W. Bruere discusses some interesting phases of working conditions in large American cities, particularly in New York. The New York State Commission on Employers' Liability and Unemployment, he tells us, two years ago made a careful investigation of conditions and upon a broad basis of fact framed its conclusions, the chief of which is that "unemployment is a permanent feature of modern industrial life everywhere. In the industrial centres of New York State, at all times of the year, in good times as well as bad, there are wage-earners, able and willing to work, who cannot secure employment."

This is the great fact which to-day challenges serious attention; for it involves all our social and economic problems—it gauges the social efficiency of our industries, it is fundamental to the physical health of the nation, it is basic to the problems of destitution, the dependency of children, vagrancy, and crime.

Of seven hundred and twenty-three employers who replied to the question, "Are you always able to get all the help you want?" sixty-seven per cent. answered, "Yes." At the same time eighty-seven per cent. stated that they got their help wholly or mainly from workmen who made personal application at their

factory doors. In few establishments do they even have to hang out a sign, "Hands Wanted," or blow the whistle, as the canning factories do, to announce that fresh loads of fruit or vegetables have made places for more workers. They have rather to protect themselves from importunities by placards like those one sees outside almost every building in process of construction: "No Carpenters Wanted!"—"No Bricklayers Wanted!"—"No Steamfitters Wanted!"—"No Workmen of any Sort Wanted!"

"It is apparent," says the Commission, "that many workmen must be going from plant to plant in vain."

Of one hundred and seventy-nine trade-union secretaries who replied to the question, "Are there at all times of the year some of your members out of work?" fifty-three per cent. answered, "Yes." Only eight per cent. said that their members lost no time through unemployment, while twenty-five per cent. replied that their members lost on average of three months or more in the year. The reports of the New York State Department of Labor, covering a period of seven years, show that in ordinary times at least fifteen per cent. of the organized workers of the State are idle during the winter months, while even during October, the month of maximum industrial activity, the percentage of unemployment among skilled workers does not

drop below five. During years of panic and industrial depression the limits both of maximum and minimum unemployment rise sharply, and the recorded idle among the best trade unions range from fifteen to more than thirty-five per cent.

These figures deal entirely with skilled workmen. No comparably accurate data were procurable to show the extent to which the unskilled suffer from worklessness. Such facts, however, as the Commission was able to gather furnish an interesting index to the truth. During 1910 the Free Municipal Lodging House in New York City gave shelter to more than thirty-three thousand homeless and penniless men and women, most of whom, though unemployed, were "by no means unemployable." In this same year the Salvation Army had five thousand applicants for work, for only five hundred of whom was it able to find places; and the National Employment Exchange, an agency conducted at great expense by a small group of financiers, found work in eighteen months for only four thousand six hundred and fifty-seven out of approximately twenty-four thousand applicants.

Too much weight is not to be given to these figures; undoubtedly many of the work-hunters registered with more than one agency, and in many cases positions were left unfilled because none of the long list was qualified to meet their special requirements. They do, nevertheless, indicate the silt that is seeping through the foundations of our American homes.

Always it must be remembered that unemployment is not a disease of panic years which can be met by emergent relief; its evils are not necessarily most serious when the number of unemployed is largest. The important questions are: How many workers do the industries of the State normally require? To how many can they give steady employment? and, How many do their fluctuating demands keep in the reserve army of casual workers?

The Federal census of manufacturers shows that about ten per cent. of the wage-earners of New York State form a reserve to meet the varying monthly demands; that fully one-third of those who are employed at the busiest times are out of employment, or are compelled to lose time in going from job to job during the year. Of 37,194 establishments, only forty per cent. were in operation for the full year; nineteen per cent. lost a month or more, and eight per cent. were shut down half the time. "Investigations of over four thousand wage-earners' families in the State," says the Commission in its summary, "show that less than half of the bread-winners have steady work during the year."

What is the effect of this industrial turbulence upon the stability of our homes?

It has been customary in New York to adopt the conclusion of the Sage Foundation, that for an average working-man's family consisting of two adults and three children, or four adults, "an income under eight hundred dollars in New York City is not enough to permit the maintenance of a normal standard; families having from nine hundred to a thousand a year are able in general to get food enough to keep soul and body together, and clothing and shelter enough to meet the most urgent demands of decency." Because, however, seventy-five per cent. of the trade unions under consideration were located in the smaller cities of the State, the Commission conservatively adopted seven hundred dollars as the amount upon which a family "can barely support itself, provided that it is subject to no extraordinary expenditures by reason of sickness, death, or other untoward circumstance."

The secretaries of two hundred and eleven trade unions reported that if employment had been constant, the average income of slightly more than half their members would have risen to a thousand dollars a year, while in only four per cent. would it have been less

than seven hundred dollars. But owing to the inconstant demand for labor, the average income actually fell below seven hundred dollars in twenty-five per cent. of the membership, and reached a thousand dollars in only fourteen per cent.

These figures are, of course, corrected for strikes; they represent normal conditions. Moreover, they deal only with a group of skilled, and therefore well-paid, trades. They leave to the imagination the economic status of the unskilled and casual workers, whose periods of unemployment are longer and more frequent, and who, even if they were employed six days a week the year round at the usual wage, could not earn more than five hundred and fifty dollars! The dock-workers are, perhaps, the most typical of these casual laborers. In every city or town that has shipping by ocean, lake, or river, they are to be found, either idling about waiting for a job, or working night and day, loading and unloading vessels. New York City alone has between forty and fifty thousand of them, not more than half of whom are working any one day. What do they do between-whiles? The Municipal Lodging House gives the history of some of them. They wash dishes in a restaurant for a few days; they help to fix up Madison Square Garden for a show; they do building-laborers' work for a while; help a team-driver when an extra man is needed; distribute directories and telephone books, and pack and ship goods in a department store during the Christmas season. How shall their families adjust their living to such wage-caricatures? Or how long will it take an industrial system that prospers upon a man to have no family to produce the things it demands?

Of course it may be justly said that the full weight of lost income due to unemployment is not always felt through a lowered standard of living in a working-man's family. When he is out of a job, his wife goes to work, his children go to work, and in this way the home may be kept together. In city parks and playgrounds, able-bodied men taking

care of babies and young children while their wives and older children are at work, are common enough. But from the standpoint of the homes and the State's interest, these can hardly be considered satisfactory adjustments. For the children of unemployed or under-employed workers, neglected in their early years because their mothers must go to work, are frequently forced to enter industry, untrained and physically handicapped, by way of the first job that offers; and as they grow up they drift out of the "blind alleys" of makeshift occupations, to swell the hosts of casual, unskilled labor.

And it isn't as though the unemployed man would rebound into estimable respectability when given a job. One who has listened to the perforce denunciations of society by the street-corner orator, whose emotions have been set aflame by the sight of the righteous man forsaken and his seed begging bread, is curiously impressed by the clear echo of the agitator's language in the State Commissioner's report.

"The unemployed man walks the street in search of work, hopeful at first, but as time goes on becoming more and more discouraged. The odd jobs he picks up bring an uncertain and very insufficient income. His whole life becomes unsteady. From undernourishment and constant anxiety his powers—mental, moral, and physical—begin to degenerate. Soon he becomes unfit for work. The merely unemployed man becomes inefficient, unreliable, good-for-nothing, unemployable. His family is demoralized. Pauperism and vagrancy result."

The two facts which the New York Commission established beyond controversy are that unemployment, and the deterioration, both of individual and of the State, that goes with it, is a normal incident to the industrial life we have so carefully built up; and that like the superintendent in any Middle-Western city we are sitting in complacent blindness while this deterioration attacks our most cherished possession—the home.

## The British Tar Disappearing

THE deterioration of the personnel on board her trading-ships threatens England's supremacy on the sea, says Mr. Spencer Campbell in *The Fortnightly Review*. Most of the crews in such ships are aliens, and not in sympathy with the British Empire, and on some occasions these crews have even manifested a hostile spirit. When war, a few years ago, hung in the balance and grave uneasiness developed between the United Kingdom and a "certain great power," her cruisers overhauled and searched British merchantmen. One of these the *Cheltenham*, had but four English seamen. The rest were Germans, and as the searchers left the steamer the German crew enthusiastically cheered them. This writer proceeds:

"The power invested in a captain is very wide, and suppose a collier commanded by an alien at the outbreak of war, there is nothing to prevent him steering into the nearest hostile port, and presenting the enemy with a valuable cargo. Multiply a few similar instances, add a well-organized mutiny or two, remember the facilities for espionage, do not neglect the thousand and one opportunities for mousing or semaphoring false information to a scouting cruiser, and one has the sum total of the damage which could be inflicted on the nation by the presence of alien officers and men under the Red Ensign. One shudders at what might have happened aboard the *Cheltenham* had war really been declared. What a hollow mockery 'Rule Britannia' is!"

Other nations, we are told, are more cautious, and make every effort to have their ships manned by their own people, even if they begin by employing foreign officers or engineers. Mr. Campbell thus cites the example of Germany:

"It is a matter of common knowledge that Germany has bought many steamers from us second-hand, and it has been the ordinary custom in many cases

for the engineering staff, at least, to remain on. We are, therefore, induced to picture the said engineers growing grey under the German flag—or possibly stout under the German beer. A pretty idea, no doubt, but doomed, alas! to be shattered ruthlessly. It has been the first idea in all German steamship concerns to replace the original staff by German substitutes. But there is no needless hurry. Until the German officers have mastered the work, there is no question of the dismissal of the British. But when the moment arrives, when the engines run just as smoothly under Teutonic hands, the change is effected. Only a short time ago, one of the leading firms announced in the annual report that every member of the staff, who had come over in their vessels purchased abroad, had now given way to a German successor."

Japan's merchant marine tells the same story—

"At the beginning practically every officer aboard was British; now only a skipper is to be found on some of the passenger vessels. It will not be long before he, too, will be a rare bird on the bridge of a Japanese steamer. It is natural, nay, inevitable. A country must study first the interests of her own flesh and blood, for it is only from her own flesh and blood that she will get the best results. Something is wanted in England of the spirit which animated the Kaiser's proud yacht about his yacht, the *Meteor*—'German-built, German-fitted, German-manned!'"

"Why, then, should our leaders quail before this retaliation? Our navigators, our engineers, are serving under many a foreign flag, but the time of their service is measured by the time of their usefulness. When their brains have been picked, when the pupil has shown himself the equal of the master, comes the dismissal, to be followed by many a weary day of waiting, until some berth is secured. No meridian senti-

mentality is allowed to sway the judgment of the alien ship-owner, with the natural consequence that their merchant service is invested with a robust vigor and cohesion sadly lacking in our own."

Mr. Campbell thinks that if the Government were to subsidize merchant-ships it would solve the problem by enabling ship-owners to pay British wages to British sailors instead of employing lascars, coolies, or "daggers" at starvation pay.

The rule of the American navy to employ none but American citizens on American warships is cited as an example for England's mercantile navy to follow. If this rule is not adopted, we are assured, it will spell ruin to the Empire.

"The loss of our mercantile marine will mean nothing else than the destruction of the British Empire, for that Empire is essentially an Empire of

the sea. It rests upon two supports: the navy in the first instance, the merchant service in the second, and each support is necessary to the other. If we lose the supremacy of the sea, the ocean which unites and welds our Empire will then divide it—there will be a falling asunder of the parts and eventual dissolution. . . . Whether it is an immutable law of nature that every empire in due course of time must crumble and decay, or not, it is certainly a fact that a long period of supremacy breeds a numbing lethargy, a contemptuous self-confidence, and a marked dislike to facing unpleasant details. During the last few years this canker has eaten its way into the British people. We have been granted great things, and it needs a strong and determined effort to awaken to our responsibilities. Otherwise we shall realize the grim truth of the old saying, 'To help fools, even the gods are powerless.'"

## Great Possibilities of Water Power

THE wonderful possibilities of water power as applied to industrial life are reviewed in *Scribner's Magazine* by Davis B. Rushmore. "Of all the different phases of water power development in this country," he writes, "none have been more useful or more important than those in connection with the Reclamation Service of the Federal Government. The object of this work has been the development of the arid lands of the country into homes for settlers, by supplying the rich soil with sufficient water to make the cultivation of crops a valuable industry."

The primary object of the Reclamation Department has been the storage of water and its supply through the canals and ditches to the farms. With the large amount of water stored and the head, which is almost always available, the possibility for a hydro-electric de-

velopment usually exists, and in most cases this has been a part of the work of the Reclamation Service in its different projects. In most cases the power is developed at the dam site, and in other cases part of it there and part of it flows from the reservoir into the valley where it is to be used for irrigation. The electric power generated in this way is largely used for pumping in order to reach higher levels than are possible by the natural flow of the water, and partly to keep the water from reaching the surface and evaporating. There is always a considerable auxiliary load of lighting and miscellaneous power work in the towns through which the transmission lines pass.

Of the many developments of the Reclamation Service in the different Western States, probably the most interesting, and certainly a representative one,



is that of Roosevelt, Arizona. The so-called Salt River Project is something over sixty miles from Phoenix, and about forty miles from Prescott, in a place so inaccessible that Government roads had to be built to allow the material for the construction work to be hauled in. Here a lake is formed nearly 30 miles in length, by damming up the water of two streams, and an area of 240,000 acres in the valley around Phoenix is to be irrigated by this water. There is a power development of some magnitude at the dam, and a number of power-houses at different places below, as the same water is used over and over in its fall to the plains where it is used for irrigation. The dam itself is a marvel of engineering construction. It is 284 feet high, and 168 feet thick at the base. Its construction at this most inaccessible place was accompanied by many interesting features of road construction, cement manufacture, etc. The ownership of this great work will pass from the Federal Government to a Water Users' Association, which is composed of the owners of the land to be irrigated.

Other developments along these lines have taken place in Colorado, Idaho, Kansas, Montana, Nevada, New Mexico, Oregon, South Dakota, Washington and Wyoming, and many more are still under consideration.

The possibilities of the use of electricity in connection with agricultural work are many, and this is one of the most promising fields of the future. The direct use of electricity for stimulating plant growth is a subject which is being actively investigated at present, and with as yet unknown possibilities.

The development of the electrical side of power transmission is but entering its second decade. From 10,000 volts electrical pressure, in the old Tel-huride Plant, 145,000 has now been reached. The advance is due to an increased knowledge of electrical science, and a constant improvement in the materials used for insulation of apparatus and line. The old glass telegraph line

insulator evolved into a complicated porcelain structure of many petticoats and various forms, and the insulators suddenly ceased to be the limiting feature in transmission voltage when the suspension or disk type was produced. The old-line construction of wooden poles, cross-arms and pins, has given place to modern pole or tower structure of galvanized steel, which give greater strength, a longer life, and freedom from many causes of interruption. Copper and aluminum, both stranded in the larger sizes, are used for the line conductors, as the prevailing price and judgments dictate. Where the electrical pressure and wire diameter are so related that the electricity is at the point of escaping into the air, the wires become luminous, the glow being distinctly visible in darkness. This is one of the limits to increasing pressure which must be respected especially at the higher altitudes. On the lines of the Central Power Company, where they cross the Continental Divide, the critical point is just reached.

The large generators which change the mechanical power of the water wheel into electric energy have increased greatly in size. They are being constructed to-day in steam turbine units of 30,000 horse-power and for water wheel service the same capacity is being considered. Such units are economical in cost and in space. In installations where but one power-house supplied the transmission system, it was considered good practice to use not less than four units so as to provide for a possible shut-down over one unit, in which case the other could be run overloaded while repairs were made. In modern systems with a number of generating stations, the number and size of units is generally determined by other considerations.

The modern three-phase high voltage power transformer of twenty-thousand horse-power bears slight resemblance to its pigmy ancestors. With its giant tank and huge cooling coils, it has become a wonderful piece of apparatus.

The switch for high voltages and large capacities has entirely changed its relative position in importance, magnitude and cost. When a switch is opened under emergency conditions, a flow of energy is interrupted and all of the elements necessary for a powerful explosion are at hand. The successful solution of the switching problem for modern power stations has been the result of much careful study and costly experimenting.

The cost of producing power is not understood by all. In any kind of manufacture we have two classes of charges which make up the cost of the product. The first, known as the fixed charges—interest, depreciation, insurance and taxes, is independent of the output. The second, the operating expenses, such as fuel, salaries, repairs, etc., is in some measure directly proportional to the quantity of goods manufactured. If the fuel is free, as in a water power, the other items all remain, and the power cost is only fractionally reduced. Again, if, as is often the case in a water-power plant, the investment per horse-power of capacity is several times that of the steam plant, it may

happen that the fixed charges are increased more than the operating expenses are reduced, and thus the electric power generated by the water actually costs more than a steam plant. When the long and expensive transmission lines and the necessary steam auxiliary stations are included, water power is not necessarily a cheap source of supply. In most cases, however, where a sufficient quantity of water is available at all times, hydro-electric power is the cheapest in the world.

As the supply of fuel becomes exhausted our water powers will naturally enhance in value and we shall become more dependent upon them for power purposes. But a fraction of the available powers have as yet been developed. The present policy of the Federal Government makes it extremely difficult to develop these streams and rivers where some question of public land is concerned. It is probable that in the near future some reasonable method of Federal and State regulation will be evolved, and the continued development of our water powers will be one of our great future industrial possibilities.

### Humidity: a Friend, not a Foe

THERE can be no doubt that most of us have been very much to blame. Time and again we have vented our wrath upon the demon of discomfort, Humidity, which turns one of our best friends. Dr. P. W. Goldsberry, in the *Medical and Surgical Journal*, demonstrates the importance of humidity on hygiene. He writes:

In the popular mind, only the discomfort felt on hot, close days is associated with this word. The impression may be gained that humidity is something to be deplored, but, properly speaking, a better term would be subtleness. For this means a high percentage of moisture along with excessive

heat. On days when the temperature is not high, the amount of humidity may be the very cause of the agreeableness of the air. During the summer when the days are hot and dry, the freshness of the morning and the soothing coolness of the evening are enjoyable, not only because the heat is diminished, but also because the air is tempered with a higher proportion of moisture. If we substitute for the word "humidity" the phrase "moisture in the air" we shall know better what is meant.

The term "humidity" is used in two senses, absolute humidity, which refers to the actual amount of water in the air per cubic foot at a given time; and rela-

dise humidity, which is the percentage of water in the air at any time as compared with the total temperature without some form of precipitation such as dew or rain. To quote further from the article under consideration:

If a heated flat in winter be at a temperature of 70 degrees, and the absolute humidity or amount of water held in suspension be the same as in the air outside, where the temperature is only 18 degrees, the relative humidity there will be only one-eighth, or 12½ per cent., and that only providing our outside air be saturated with moisture, which is often not the case.

If the air outside, at a temperature of 18 degrees, have an absolute humidity of but half a grain, then its relative humidity will be only 50 per cent., and the air inside, though having the same absolute humidity, may have, by reason of its higher temperature, a relative humidity of only 6¼ per cent. If we reflect that a humidity of from 60 to 75 per cent. is none too much for average conditions of human life, we can realize how far below normal is the air in which most of us are housed during the winter. As a matter of fact, various tests of air in schoolrooms, hospitals and living rooms during the winter time have been made here and there through the country; these show that the humidity often went below 40 per cent., and upon occasion got down below 10 per cent.

Under such conditions indoor air in winter is very dry and irritating. This is one of the prime causes of chapped hands and parched lips.

One of the important problems of modern building construction is that of making indoor conditions more nearly like outdoor as regards humidity. Methods for raising the humidity in buildings are still in the experimental stage. Dr. Goldsberry has made various attempts to improve the moisture quality of the air in different rooms. He says:

When the building was heated by furnace, a dish of water was kept over the register. A muffin tin was used for this purpose, as its form presents an exceptionally large surface below for the heat to strike and, therefore, increases evaporation. The muffin tin had to be filled much oftener when cloth was hung over it so that the water was sucked up into the meshes by capillary force, thus increasing the evaporating surface. I have found wet towels or newspapers, too, spread about the room somewhat helpful in moistening the air, but it proved difficult by such means to increase the humidity above 5 or 10 per cent. This, however, was enough to give a sense of increased comfort, for our delicate tissues respond to even such slight favoring changes.

Closing the register at night lowers the temperature of the room and, therefore, lessens the amount of moisture required for comfort. Merely in the condition of one's throat in the morning one would find ample warrant for the shutting off of the heat at night.

Under our conditions of indoor life, we suffer not from too much humidity, but rather from too little.



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